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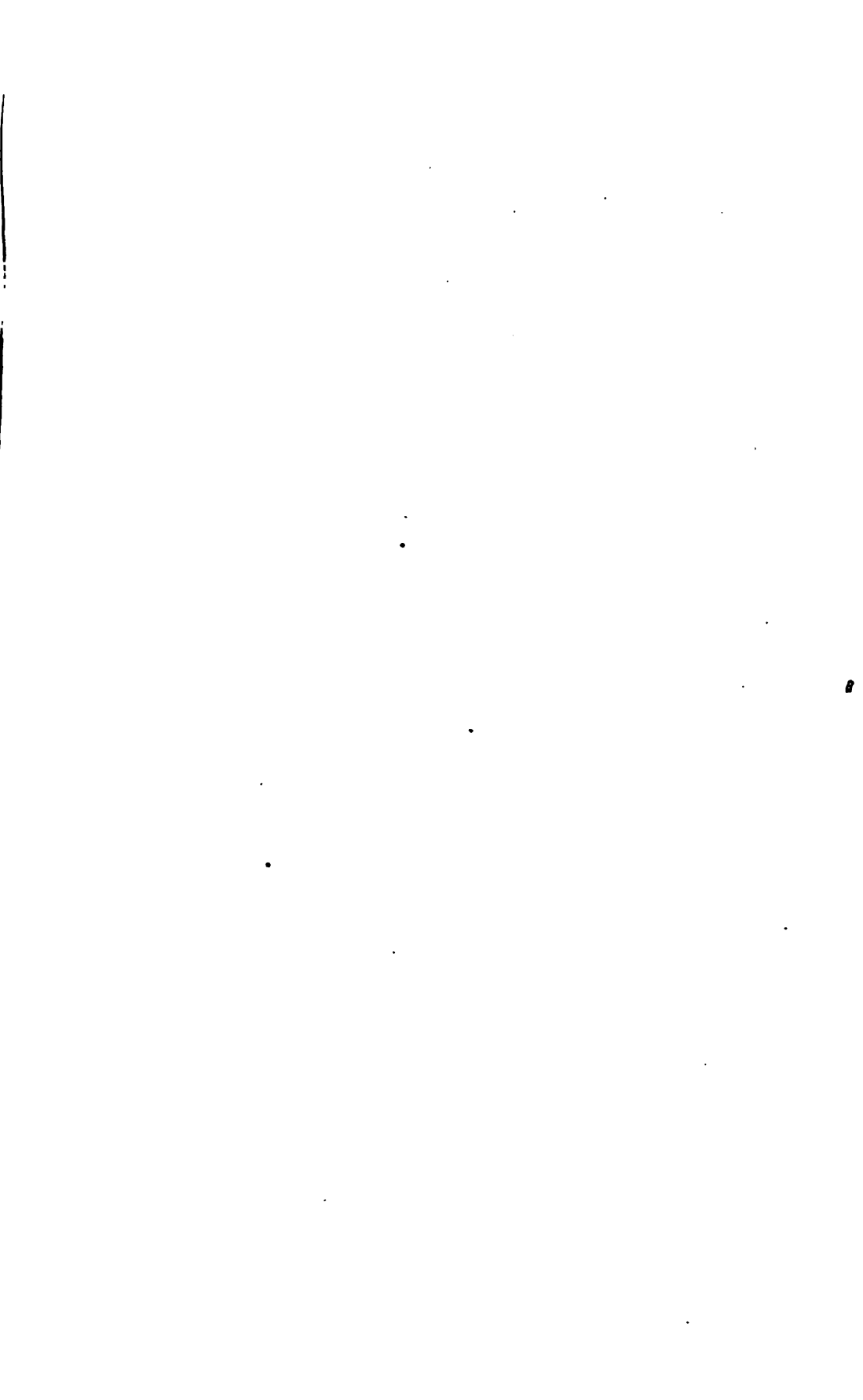
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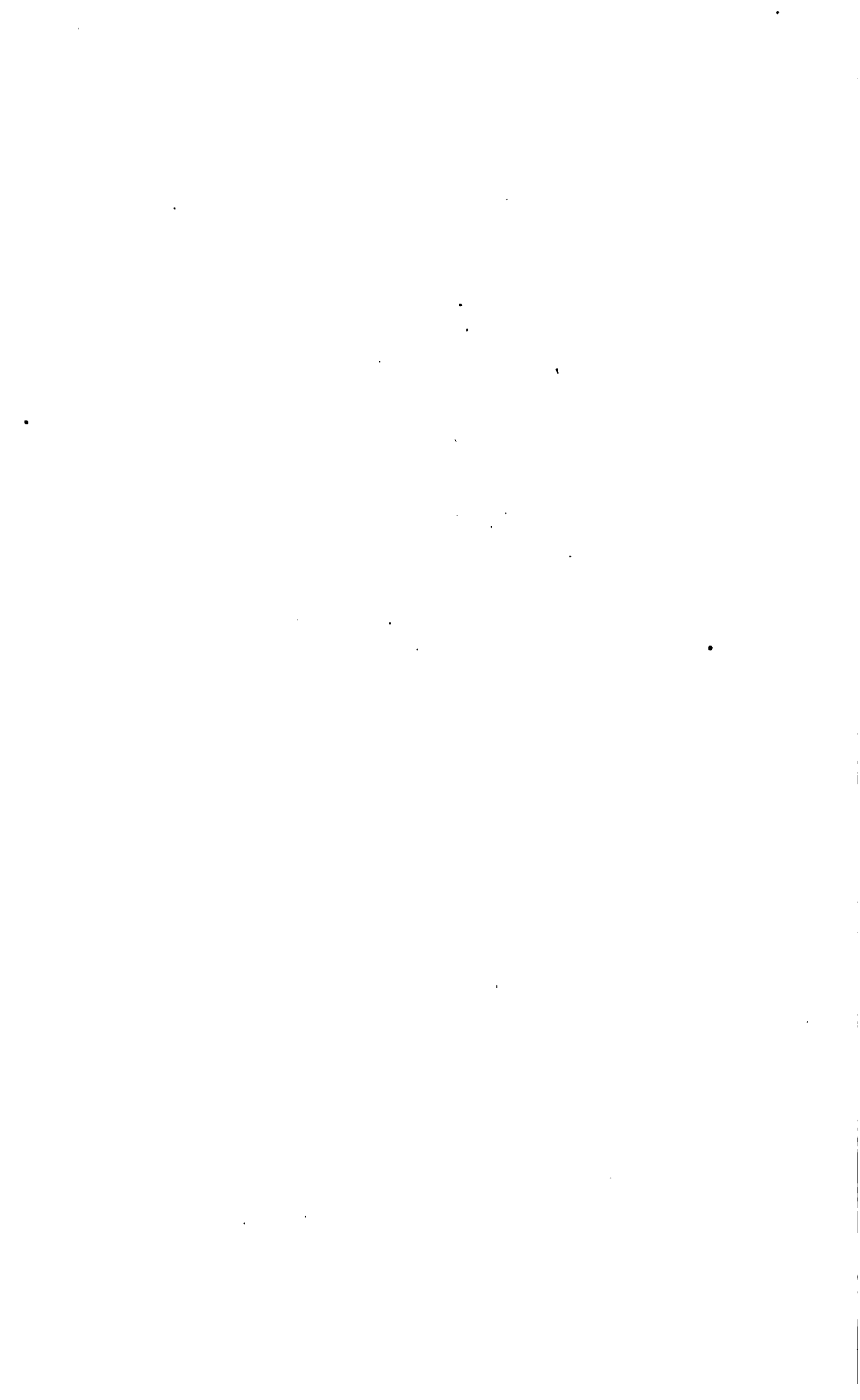
SECOND LIEUTENANT
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LEEDS
PHILOSOPHICAL AND LITERARY SOCIETY.

ANNUAL REPORT

FOR
1852-53.

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Seal

Boston Society of Natural History.

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THIRTY-THIRD REPORT

OF

THE COUNCIL

OF THE

Leeds Philosophical and Literary

SOCIETY,

AT THE CLOSE OF THE SESSION,

1852-53.

Leeds:

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REPORT OF THE COUNCIL

AT THE CLOSE OF THE

THIRTY-THIRD SESSION.

The close of the Thirty-third Session of THE LEEDS PHILOSOPHICAL AND LITERARY SOCIETY imposes upon the retiring Council the duty of reviewing the proceedings of the past year, and affords them an opportunity of recording their opinion of the state and prospects of the Society.

In every Institution the state of the Finances must be a paramount subject of interest, the Council, therefore, feel much gratification in being enabled to inform the Members that the Treasurer's Account remains in a very satisfactory state, the balance in favour of the Society being £112. 15s. 7½d., after the liquidation of all claims, shewing an increase of £60. 18s. 11½d. over the balance of last year.

The Ordinary Meetings during the Session, except on two or three occasions, have been well attended. The Papers read at these Meetings have been of varied interest, and have generally led to animated discussions.

The following is a List of the Papers :—

1. General Meeting, "On the Literary Styles of Great Military Commanders—Xenophon, Cæsar, Napoleon, Wellington,"—by the President—(Read Oct. 15th, 1852.)
2. "On the Fossil Fishes of the Yorkshire Coalfield,"—by Mr. T. P. Teale, F.L.S., *Curator*—(Read Nov. 19th, 1852.)
3. The *Conversazione*—(Dec. 3rd, 1852.)
4. "On the Comparative Anatomy of the Megatherium, and other large Fossil Edentata,"—by the Rev. Professor Sedgwick, of Cambridge—(Read Dec. 17th, 1852.)
5. "On the Distinguishing Characteristics of the various Styles of Architecture,"—by Mr. P. Boyce—(Read Jan. 7th, 1853.)
6. "On the Relations of Life to Physical Laws,"—by Mr. T. Scattergood—(Read Jan. 21st, 1853.)
7. "On Wit—its Definition, and Illustrations,"—by W. S. Ayrton, Esq., F.S.A.—(Read Feb. 4th, 1853.)
8. "Further Reminiscences of Syria,"—by Mr. C. G. Wheelhouse—(Read Feb. 18th, 1853.)
9. The Promenade. "Paper on the Principal Deceased Leeds Artists,"—by the President—(March 4th, 1853.)
10. "On the Causes which have Retarded the Civilization of Africa,"—by the Rev. J. Kenrick, M.A., of York—(Read March 18th, 1853.)
11. "On some of the Scientific and Practical Applications of the Doctrine of Probabilities,"—by the Rev. H. R. Reynolds—(Read April 1st, 1853.)
12. "On the Distribution of Metals in the Earth,"—by Mr. C. L. Dresser—(Read April 15th, 1853.)

The subject of the Paper by Professor SEDGWICK, "On the Comparative Anatomy of the Megatherium, and other large Fossil Edentata," was treated by the learned Professor in a masterly and lucid manner, before a numerous and delighted audience. At the conclusion of his Lecture, the President announced to Professor SEDGWICK that he had been unanimously elected an Honorary Member of the Society, as a mark of the estimation in which his long and valuable researches in the science of Geology were held.

In the above List will also be found the names of other eminent individuals, to whom and to all the Contributors the thanks of the Society are due for the Papers they have respectively furnished.

Under the head of Lectures, the Council have the pleasure to allude to a Course offered by Mr. THEODORE WEST, and accepted by the Council, "On the Curiosities of Analytical Chemistry." During the delivery of these Lectures, the importance of minute chemical analysis was illustrated and explained by Mr. WEST with great clearness and ability. It is hoped that Mr. WEST will tread in the steps of his lamented Father, the late W. WEST, Esq., F.R.S., and that the series just adverted to will be the precursor of many future Courses.

In the Report of last year it was mentioned that, encouraged by the success of the Readings in Shakspeare by Mrs. FANNY KEMBLE, and by a wish expressed by many of the Members, the Council invited that Lady to

give another Series during the past Session. Mrs. KEMBLE was able to accept the invitation, and revisited Leeds in January last. The Readings were given with even greater effect than those of the previous year. The Saloon of the Music-Hall, which was again engaged, was filled to overflowing. The receipts corresponded with the increased attendance, and covered all the expenses, in fact rather exceeded them, a circumstance unprecedented in the experience of this Society, considering the cost of the Course. The Plays selected were Anthony and Cleopatra, Twelfth Night, Merry Wives of Windsor, and Hamlet.

Although it is gratifying to refer to any arrangements which have in their results proved successful, the Council are nevertheless of opinion that, notwithstanding the *éclat* which has attended the engagement of Mrs. KEMBLE, it is most desirable not to lose sight of the higher and more important purposes for which the Society was instituted. They would, therefore, recommend to their successors the desirableness of varying the proceedings of the next Session, by the engagement of a Lecturer of eminence to deliver a Course of Lectures on a scientific subject, and to bring before the Members the most recent discoveries in some branch of science.

In December last, the Annual Conversazione was held, at which, as on former occasions, numerous works of art and objects of interest were exhibited, and short communications read. The attendance was as brilliant and numerous as usual.

A short time previous to the Promenade, which was fixed for the 4th of March, it was suggested by some Members of Council, that a deviation from the ordinary routine of proceedings might be introduced with advantage, and that if an Exhibition of such works of Leeds Artists, living and deceased, as could be brought together at a short notice, could be formed, it might not only prove a source of gratification to the Members of the Society, but be the means of producing a more favourable estimate of local talent. The suggestion was promptly taken up, and in the short space of one week, upwards of three hundred paintings were collected and exhibited in the rooms of the Society. The evening of the Promenade was very numerously attended, and a general wish was expressed that the rooms should remain open a week or fortnight longer. The Exhibition accordingly remained open for a fortnight, and was visited by upwards of one thousand three hundred persons. Although heavy expenses were incurred in altering and refixing the gas fittings, in collecting and returning the pictures, &c., the receipts nearly covered the expenditure. There is no doubt that the Exhibition, at a trifling expense to the Society, has been instrumental in giving a due appreciation and favourable estimate of native talent; and it is hoped that this new feature in the Society's proceedings will not be lost sight of in the arrangements for the next Session.

Since the last Annual Meeting, the Theatre of the Hall has undergone a great improvement, by an alteration

of the backs of the seats on both sides, similar to that made last Session in the centre seats; the space between the seats being enlarged, and the backs made more comfortable. This improvement has been principally effected by the private liberality of several Members of the Society.

During the past Session, an important alteration has been made in the mode of admission to the Museum, by the adoption of a uniform charge of one penny, instead of the written orders of Members, a similar course having been introduced into other Institutions with great advantage. The altered mode of admission renders the Museum more easily accessible to the public, and particularly to strangers, who hitherto have not, in many instances, known where to apply for admission. It will also be an additional source of income to the Society, and assist in defraying the heavy expenses connected with the Museum.

The Donations to the Museum during the Session, though not numerous, have been important, as additions of interest to the different departments to which they belong. In Mineralogy, the specimen which claims special notice, is a magnificent mass of Lead Ore, 2cwt. 1qr. 11lbs. in weight, from Leyburn, presented by Mr. FREDERICK KIRKBY. The principal Donations to the Geological collection consist of a valuable series of Specimens from the late GIDEON ALGERNON MANTELL, LL.D., a man whose loss to science the Geologists of this country will have just cause to deplore, since to his early and indefatigable

labours, conducted as they were at great pecuniary sacrifice, and amidst the claims of an arduous profession, we owe the discovery, identification, and description of some of our most interesting Fossil Saurian Reptiles: as the Iguanodon, Hylæosaurus, &c., and the formation of the most important collection in Europe of those extinct Reptiles, which now occupy so conspicuous a place in the British Museum. During a short visit to Leeds last Spring, Dr. MANTELL most liberally offered to present to the Museum, on his return to London, some fragments of those Saurians of a past age, from the elucidation of whose remains he had gained so well merited a celebrity: this promise he fulfilled only a short period before his lamented death.

A still further accession of Hippopotamic remains has been received since the last Report, from which additional evidence of a most interesting nature is obtained, viz., that the animals to whom they belonged were both mature and young, and that, probably, not less than three individuals were originally submerged in this locality. The circumstance of the animals having been of different ages, when taken in connection with those described by Dr. BUCKLAND from the Kirkdale Cave, (amongst which were two Molar Teeth of a young Hippopotamus which had just cut the gum, and had not the fangs completed when the animal perished,) afford presumptive evidence of the aboriginal nature of the animals in question, which would not have been so conclusive if only a fragment or

two of a single individual had been discovered, as these might have been drifted from a neighbouring county or distant region, which is not so probable when both old and young individuals are found associated in different parts of the same county, and under different circumstances.

During the excavations carried on for the Sewerage, several Bones of the Horse, Short-Horned Ox, and Deer, have been received. The most important Specimen, however, which has been exhumed, consists of a fine Horn of the Red Deer, about three feet in length, found under the gravel in Wilson Street, twenty feet below the surface, and in a very high state of preservation.

In the Miscellaneous department a large accession has been received from Mr. EDWARD HOLT, consisting of a valuable collection of Bows and Spears, War Clubs, Ornaments of Dress, &c., from the South Sea Islands. Although the Museum was previously in possession of numerous articles of this description, collected by the late GEORGE BENNETT, Esq., in Tahiti, and our townsman, Mr. CULLINGWORTH, in New Zealand, yet these being almost all either from different localities, or differing as regards their construction, are consequently of great interest to the Ethnologist in tracing the gradual advance of aboriginal nations from a barbarous to a comparative civilized state of life, and their ingenuity in the construction and independent adoption of similar articles for the accomplishment of similar purposes. Also, from Mr. BLACKETT, several Native Productions from South Africa.

The Library has received a more than ordinary number of additions during the past year, which the Council have great satisfaction in recording, inasmuch as it is very desirable that this department should keep pace with the other branches of the Institution. The **SMITHSONIAN INSTITUTION AT WASHINGTON, U. S.**, has contributed not only many of their own Publications, but also several others of great interest, printed by the American Government, and transmitted to the Society at their request. By this liberal policy the above Institution is fully carrying out the intentions of its enlightened and munificent Founder—**“The Diffusion of General and Scientific Knowledge.”** From the **SOCIETY OF ARTS** have also been received numerous Publications of importance, either presented by the Society or transmitted at their suggestion, amongst which are several valuable Parliamentary Reports, &c. To the **ROYAL SOCIETY OF EDINBURGH** the Society is much indebted for the Transactions of that Body from 1841 to 1852; and the **Makerstoun Magnetical and Meteorological Observations**, conducted under the auspices of their President, **Sir T. Mac Dougal Brisbane, Bart.** From the **ROYAL COMMISSIONERS** for the Great Exhibition have been received the Reports of the Juries; and from **Lord LONDESBOROUGH** the Catalogue of **Lady Londesborough’s Collection of Ancient and Mediæval Rings, &c.** The Reports also of various Local and Metropolitan Societies have been received.

In concluding their Report, the Council beg to con-

gratulate their Fellow-Members on the continued prosperity of "The Leeds Philosophical and Literary Society;" and would venture to express a hope, that at the termination of every future Session, their successors may be enabled to resign their trust with similar feelings of satisfaction.

LEEDS PHILOSOPHICAL AND LITERARY SOCIETY.

TREASURER'S ACCOUNT, MAY, 1853.

	£.	s.	d.		£.	s.	d.
Receipts.				Disbursements.			
To Balance in Treasurer's hands	49	17	10	By Insurance	8	8	4
" in Sub-Curator's hands	1	19	10	Tradesmen's Bills	16	9	1
Subscriptions of 75 Members	167	10	0	Gas and Coke	8	19	8
" of 66 Subscribers	69	6	0	Coals	11	6	11
" of 4 New Members	21	0	0	Printing and Advertising	17	17	0
" of 15 New Subscribers	15	15	0	Books and Stationery	8	8	6
Arrears of Subscriptions received	5	5	0	Sub-Curator's Salary	120	0	0
Cash received at Mr. West's Lectures	0	14	6	Janitor	27	12	2
" at Mrs. F. Kemble's Readings	81	0	0	Purchase, Carriage, and Preparation of Specimens	1	10	0
" at the Promenade and Exhibition	51	10	0	Water Rate, £1, Property Tax, 8s. 9d.	1	8	9
Rent of West Riding Geological Society	20	0	0	Expenses of Conversazioni	13	4	8
Rent of Lecture Room	5	5	0	Less Receipts	6	10	0
Rent of Cellars under the Hall	15	0	0	Expenses of Promenade and Exhibition	6	14	8
Sale of Bottles left in the Cellars	1	4	6	Expenses of Altering the Seats in Lecture Room	17	17	0
Admissions to the Museum	4	17	0	Less Subscriptions for do.	15	2	0
				Mrs. F. Kemble, for Four Readings	2	15	0
				Rent of Music Hall, and extra Expenses for do.	60	0	0
				Expenses of Mr. West's Lectures	19	4	6
				Sundry Expenses, Postage, Cleaning, &c.	1	15	0
				Subscription to the Society of Arts	17	19	11½
				Balance in Treasurer's hands	91	10	11
				Balance in Sub-Curator's hands	21	5	8½
					£500	4	8

DONATIONS AND ADDITIONS

TO THE

SOCIETY'S MUSEUM.

Those marked thus () are Honorary Members; thus (†) Members of this Society.*

GEOLOGY AND MINERALOGY.

- Fifty-four Specimens of Reptilian Bones, Shells, and Vegetable Remains, from the Isle of Wight } Dr. Mantell, F.R.S., London.
- A very fine Specimen of Lead Ore, from the Keld Lead Mine, near Leyburn, weight 2cwt. 1qr. 11lbs. } Mr. F. Kirkby, Leeds.
- Fine Horn of the Red Deer, found in excavating for the Sewerage in Wilson Street, twenty feet below the surface..... } Mr. S. Buxton, Hunslet.
- Several Bones of the Horse, Ox, Swine, and Goat, found in excavating for the Sewerage in Hunslet Lane } Mr. T. Scattergood.
- Several Bones of the Hippopotamus, Elephant, and Auroch, found at Wortley ... } Messrs. Longley.
- Singularly Contorted Specimen of *Stigmaria Ficoides*, from Stanley Colliery } Robert Hudson, Esq.

ZOOLOGY.

- Stuffed Specimen of the Jaguar (*Felis Onca*), from Demerara } Messrs. Frankland and Beckwith, Demerara.
- Skin of the Serval (*Felis Serval*), from Port Natal } Mr. Edmund Hay.
- Specimen of the Sulphur Crested Cockatoo } Mrs. Eddison.
- Fine Specimen of the Crocodile (*Crocodilus vulgaris*), from South Africa } † Mr. T. P. Teale, F.L.S.

- Two frontal Bones with Horns of the Gnu }
 (*Catoblepas Gnuo*); and Steenbock } † Rev. C. Wicksteed, B. A.,
 (*Oryx tragulus*) } President.
- Very fine Pair of Horns of the Cape }
 Buffalo (*Bos Caffer*); and Springbock } † Mr. W. S. Ward.
 (*Gazella Enchore*) }
- Several Specimens of Reptiles, Fish, and }
 Cuttlefish, from Western Africa } Rev. W. Dawson.
- Specimen of the Red Throated Diver }
 (*Colymbus Septentrionalis*), immature.. } † Mr. T. P. Teale, F.L.S.
- Specimen of the White variety of the }
 Common Peacock } Jno. Darlington, Esq., Bradford.
- Shark's Jaw; Upper Jaw and Tusks of the }
 African Wild Boar..... } Mr. Edward Blackett.

MISCELLANEOUS.

- Five Ancient British Celts; Arrow and }
 Spear Heads; and the Bow and Shield of } Mr. John Dixon.
 a Caffer Warrior }
- Bushman's Sheepskin Karoos; Shield, Snuff- }
 box, Doll, and Drum Sticks, from Africa; }
 Two Bronze Medallions of Napoleon; }
 Pistol found in Armley Wood (with some }
 Old Armour); Three Egyptian Deities }
 in Porcelain; Roman Fibula, and Bronze }
 Figure, from Aldborough; Bronze Foot, }
 and Specimen of Glass, from Pompeii; }
 Roman Fibula, and Bronze Satyr, found }
 at York; Coin Moulds, found at Lingwell }
 Gate, near Wakefield; Stone Idol, from }
 Jamaica } Mr. E. Blackett.
- Shilling of James I., and Copper Token, }
 1667, found in excavating for the }
 Sewerage in Kirkgate } Mr. Boothman.

LIBRARY.

- Ofversight af Kongl Vetenskaps Akademiens }
 Förhandlingar, 8vo., for 1850 and 1851.. } The Academy of Sciences of
 Stockholm.
- Smithsonian Contributions to Knowledge, }
 vols. iii. and iv., 4to. } The Smithsonian Institution,
 Fifth Annual Report of the Board of }
 Regents, 8vo..... } Washington, U. S.

- Smithsonian Report on Recent Improvements in the Chemical Arts, 8vo. }
 Directions for Collecting Specimens of Natural History, 8vo. }
 Registry of Periodical Phenomena }
 Abstract of the Seventh Census of the United States }
 American Zoological, Botanical, and Geological Bibliography, for 1851..... }
 The Smithsonian Institution, Washington, U. S.
- History, Condition, and Prospects of the Indian Tribes of the United States, by H. R. Schoolcraft, LL.D. }
 The Commissioners of Indian Affairs through the Smithsonian Institution.
- Reports on Sugar and Hydrometers, by Professor Mc Cullock..... }
 Report of the Commissioners of Patents for 1850, pt. 1, Mechanical, vol. i. }
 Report of the Commissioners of Patents for 1850, pt. 2, Agricultural, vol. iii..... }
 The American Government.
- Army Meteorological Reports for Twelve Years, from 1831 to 1842, 8vo. }
 The Surgeon-General of the United States.
- United States Patent Laws, 8vo. }
 Rules for Obtaining Patents in the United States, 8vo. }
 The Commissioners of Patents.
- Notices of the Academy of Sciences of Philadelphia, by W. S. Ruschenberger, M.D., 8vo..... }
 The Academy of Sciences of Philadelphia.
- Reports of the Royal Institution of Liverpool for 1851 and 1852 }
 Catalogue of the Paintings and Drawings in the Gallery of the Royal Institution, Liverpool }
 The Liverpool Royal Institution.
- Proceedings of the American Philosophical Society, vol. v., pt. 47 }
 The American Philosophical Society, Philadelphia.
- Laws of the Manchester Natural History Society }
 The Natural History Society of Manchester.
- Minutes of the Committee of Council on Education, 13 vols., 8vo. }
 Do. do. 1 vol., folio }
 The Committee, through the Society of Arts.
- Transactions of the Society of Arts for 1846, 1847, and 1848 }
 The Society of Arts, .

Proceedings of the Royal Society of Edinburgh for 1851 and 1852	} The Royal Society of Edinburgh.
Transactions of the Royal Society of Edinburgh, with the Makerstoun Magnetical and Meteorological Observations, vols. xvi., xvii., xviii., xix., and xx., 4to.	
Quarterly Return of Marriages, Births, and Deaths for 1852	} The Registrar General.
Second Report of the Commissioners for the Great Exhibition of 1851	} The Commissioners.
Notices of the Meetings of the Members of the Royal Institution of Great Britain ...	} The Royal Institution.
Annual Report of the Hull Literary and Philosophical Society	} The Hull Literary and Philosophical Society.
Transactions of the Manchester Philosophical Society, vol. x.	} The Philosophical Society, Manchester.
Reports of the Juries of the Great Exhibition for 1851	} The Commissioners.
Lecture on the Stearic Candle Manufacture, by G. F. Wilson	} The Society of Arts.
Addresses on the Facilities afforded for obtaining Education in Practical Art, by Henry Cole, C.B.	
On the Methods Employed for Imparting Education in Art, by Richard Redgrave, R.A.	
A Geological Report on the Damoodah Valley, by D. H. Williams	
Lecture on the Industrial Instruction on the Continent, by Lyon Playfair, F.R.S.	
Lecture on the Musical Department of the Great Exhibition, by the Rev. W. W. Cazalet	
A Series of Letters on Agricultural Improvement, by J. J. Mechi	
Report of the General Board of Health on Epidemic Cholera, 1848 and 1849	
Minutes of Information on Drainage of Land for Sites of Towns	
Minutes of Information relating to House Drainage and Sewerage	
Minutes of Information relating to Sewer Water and Town-Manures	

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| Report on Extramural Sepulture for Country
Towns | } | The Commissioners, through the
Society of Arts. |
| Report on the State of the Population in
Mining Districts | | |
| Cobden, R., 1793 and 1853. Three Let-
ters | } | The Author, through the Society
of Arts. |
| Abstract of a Lecture on Lord Rosse's
Telescope, by the Rev. Dr. Scoresby ... | | |
| Catalogue of a Collection of Ancient and
Mediæval Rings and Personal Ornaments,
formed for Lady Londesborough. Printed
for Private Reference..... | } | Lord Londesborough, Grimston
Park. |
| Report of the Zoological Society of London
for 1852..... | | |
| A Miraculous Victory obtained at Wakefield,
in Yorkshire, 1643. Reprinted from the
Original Pamphlet for Mr. Boyne..... | } | Mr. Boyne. |
| | | |

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,, in Zoology	T. P. Teale, F.L.S.
,, in Antiquities and Works of Arts, &c.	Thomas Nunneley.
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 W. B. Holdsworth.
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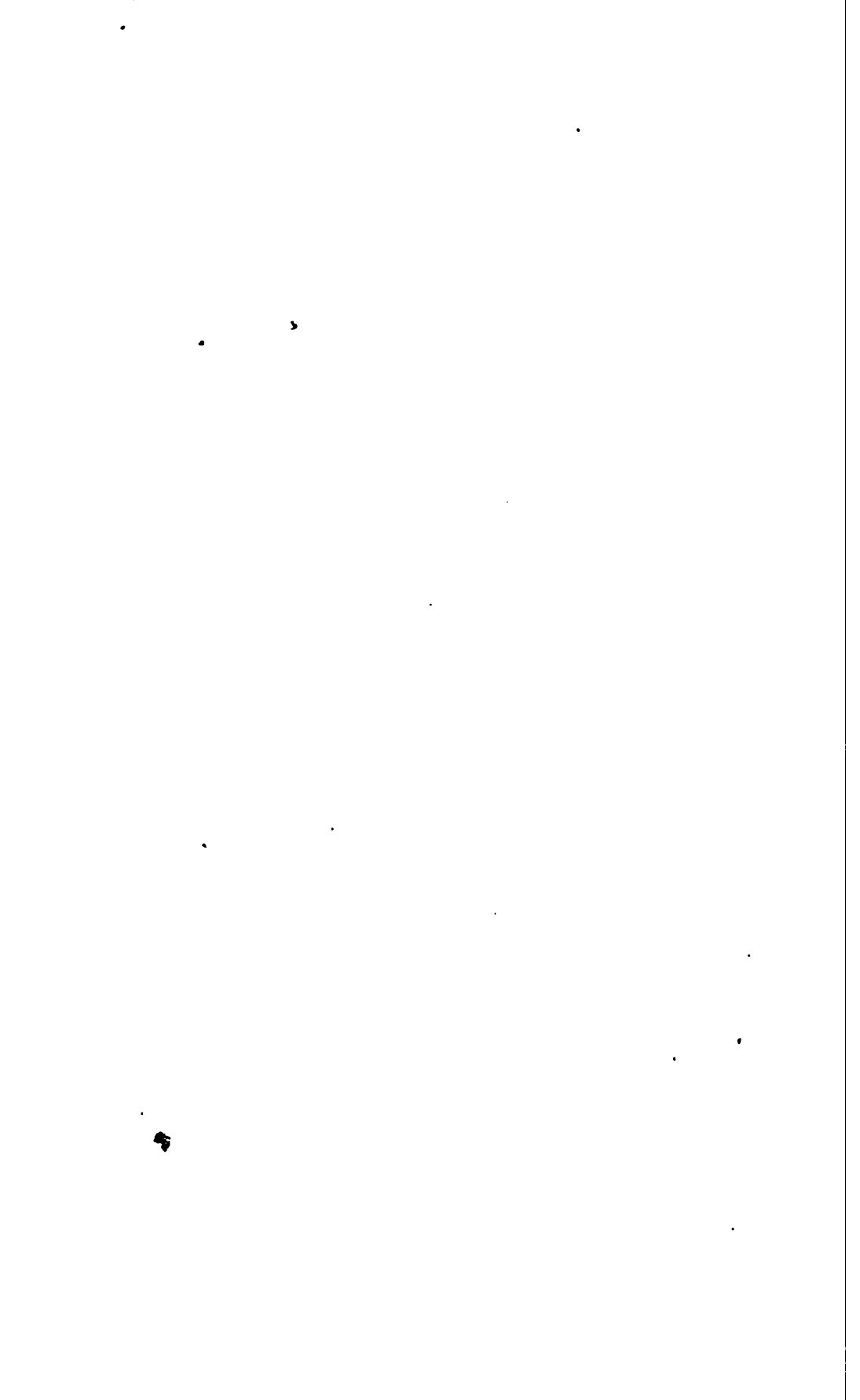
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- Rev. W. V. Vernon Harcourt, F.R.S., F.G.S., Vice-President of the Yorkshire Philosophical Society, *Bolton Percy.*
- Luke Howard, F.R.S., *Ackworth.*
- J. F. W. Johnson, A.M., F.R.S., &c., Reader in Chemistry and Mineralogy in the University of Durham, *Durham.*
- William M. Maude, *Knostrop.*
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- William Osburn, M.R.S., Lit., &c., *London.*
- John Phillips, F.R.S., F.G.S., &c., Honorary Member of the Yorkshire, Hull, Sheffield, and Halifax Philosophical Societies, *York.*
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- Rev. Wm. Scoresby, D.D., F.R.S., &c., Corresponding Member of the Institute of France, *Torquay.*
- Rev. Adam Sedgwick, M.A., F.R.S. Woodwardian Professor of Geology in the University of Cambridge.
- Rev. Saml. Sharpe, A.M., *Wakefield.*
- James De Carle Sowerby, F.L.S., &c., *London.*
- John Spear, *London.*
- Rev. William Thorp, A.M., *Misson-Vicarage, Bawtry.*
- Thos. Stewart Trail, M.D., F.R.S., Professor of Medical Jurisprudence in the University of Edinburgh.
- John K. Walker, M.D., *Deanshead, Halifax.*
- Charles Waterton, Honorary Member of the Yorkshire Philosophical Society, and Bristol Institution, *Walton Hall.*







*Le Boston hat West South
14th W Denny, Comp*

Oct. 1857

L E E D S
PHILOSOPHICAL & LITERARY SOCIETY.

THE ANNUAL REPORT
FOR 1853-4.

5272/

Boston Society of Natural History.

From

Received

THIRTY-FOURTH REPORT

OF

THE COUNCIL

OF THE

L E E D S

PHILOSOPHICAL & LITERARY

SOCIETY,

AT THE CLOSE OF THE SESSION,

1853-4.

L E E D S:

PRINTED BY EDWARD BAINES AND SONS.

MDCCCLIV.

FORM OF A BEQUEST TO THE SOCIETY.

Every person desirous of bequeathing to the Society any Sum of Money, Specimens, Books, Instruments, or other Property, is requested to make use of the following Form :—

I give and bequeath to the Trustees for the time being, of the Society established at Leeds, called "THE LEEDS PHILOSOPHICAL AND LITERARY SOCIETY," for the use of, the said Society, the sum of _____ *to be paid out of such part of my Personal Estate as I may legally charge therewith. [Or here enumerate the effects or property intended to be bequeathed.] And I direct that the Receipt of the Treasurer of the said Society for the time being, shall be an effectual discharge to my Executors for the said legacy.*

REPORT OF THE COUNCIL,

AT THE CLOSE OF THE

THIRTY-FOURTH SESSION.

IN presenting the Annual Report at the close of the Thirty-fourth Session, to the Members and Subscribers of the Leeds Philosophical and Literary Society, the Council do not find it necessary to advert to any peculiar features in the proceedings of the past year which require particular notice. The thanks of the Society are due to those gentlemen who have come forward to furnish the Sessional Papers read at the ordinary meetings. The attendance at these meetings must always be liable to fluctuation, on account of the many unforeseen engagements and accidents which may occur to prevent ladies and gentlemen from attending who wished and intended to do so. While the Council have seen with pleasure that on several occasions during the Session the attendance has been considerable, they have to regret that any accident should have prevented an equal attendance when other papers of distinguished merit have been read. They would strongly recommend to the Members and Subscribers generally, and

more particularly to their successors in office, to encourage, both by influence and example, a good attendance at the reading of Papers, and a full discussion afterwards, both as an attention due to the gentlemen who furnish the papers, and as a highly useful and attractive part of the Society's proceedings.

The following Papers have been read at the Ordinary General Meetings :—

1. "On the Effects produced by an Enhancement or Depreciation of the Currency"—by the Rev. Wm. Sinclair, *Vice-President*—(Read Oct. 21st, 1853.)
2. "On Thought and Action"—by the Rev. A. H. Blythe—(Read Nov. 4th, 1853.)
3. "On the Aire Valley and its Organic Remains"—by Mr. T. P. Teale, F.L.S.—(Read Nov. 18th, 1853.)
4. *The Conversazione*—(Dec. 2nd, 1853.)
5. "On the Laws of the Progress of Society, as illustrated by the Present Condition of Mankind"—by R. Monckton Milnes, Esq., M.P.—(Read Dec. 16th, 1853.)
6. "On Town Halls"—by Dr. Heaton—(Read Jan. 6th, 1854.)
7. "On Laughter"—by W. S. Ayrton, Esq., F.S.A.—(Read Jan. 20th, 1854.)
8. "Personal Recollections of Milan and Venice"—by the Rev. H. R. Reynolds, B.A.—(Read Feb. 3rd, 1854.)
9. "On the Life and Writings of Butler"—by W. S. Ayrton, Esq.—(Read Feb. 17th, 1854.)
10. "A Visit to Mettray"—by Robert Hall, Esq.—(Read March 3rd, 1854.)
11. "On the Mode of Computing Time in Ancient Egypt"—by Mr. Wm. Osburn, Jun.—(Read March 17th, 1854.)
12. "On the Fairies of English Poetry"—by Mr. Joseph Knight—(Read March 17th, 1854.)
13. "On Ventilation"—by Mr. C. Watson—(Read April 7th, 1854.)

In consequence of the high position attained by Miss Glyn as a Dramatic Reader, and the probability

of her soon leaving this country for America, the Council were induced to secure her services for four Readings from Shakspeare. The plays selected were Othello, King John, Merchant of Venice, and Henry VIII. The saloon of the Music Hall was engaged for the purpose, and Miss Glyn's Readings were worthy of her high reputation. There was a good attendance of the Members and Subscribers of the Society, but the sale of Tickets was by no means equal to the anticipations of the Council.

The Council, bearing in mind the recommendation in the Report of last year, that a lecturer of eminence should be engaged during the present Session, to deliver a course of Lectures on a scientific subject, have been in communication with some of the most distinguished men of the day, but have been unsuccessful in their endeavours to carry out the suggestion, owing to the previous engagements of the parties applied to, or from their inability to visit Leeds during the Session.

From the success which has attended the delivery of Juvenile Lectures, at the Royal and other Institutions in London, the Council were induced to try the experiment of a course of this nature during the Christmas vacation. The object of these Lectures is to impart scientific knowledge in its most simple form, divested as much as possible of technicalities, and thus rendered suitable for the comprehension of

a Juvenile audience. Four Members offered their services, and selected the following subjects for their Lectures :—

1. " On the Laws Regulating the Diffusion of Heat"—by Dr. G. P. Smith.
2. " On the Atmosphere"—by Mr. W. S. Ward.
3. " On Man's Favourites, ' The Horse,' ' The Dog,' ' The Cat,' by Mr. J. I. Ikin.
4. " On the Nature and Effects of Chemical Action"—by Dr. Heaton.

The attendance upon this course was highly satisfactory; and the Council would recommend their successors to make arrangements for the delivery of a similar series during next Session.

The Annual Conversazione was held in December last, and was as successful in all respects as on former occasions. Amongst the novelties exhibited was an extensive series of educational apparatus, a collection of Photographs, and various other objects of interest, all contributed by the Society of Arts.

The Council cannot refrain from expressing their regret, that in consequence of the severe indisposition of the President, the Society has been deprived of his zealous and able services during the entire Session. They trust that his health will be speedily restored, and that he will soon be enabled to renew his valuable exertions for the benefit of the Society.

In the last Report allusion was made to the alteration in the mode of admission to the Museum, by the

adoption of an uniform charge of one penny, instead of the written order of a Member. The success attending the introduction of this regulation has fully realized the expectations of the Council, 8,052 persons, during the past year, having availed themselves of the facilities thus afforded of visiting the Museum, without the formality of applying for an order, and the Society has in consequence received a net return of £30 17s. The Council feel justified in anticipating from the experience of other Institutions which had previously adopted this course, and from the number of persons who have visited the Museum during the first year, many of them for the first time, that the receipts will annually increase, and the expenses connected with the Museum, which form the heaviest item in the annual expenditure, will, from this source, be considerably reduced.

It will be seen from the list of Donations appended to this Report, that the contributions to the Museum have been of an important character. Specimens of rich Silver Ore have been added to the Mineralogical series, from R. Smiley, Esq., of London; and several earthy substances, not before in the Museum, from Mr. W. S. Ward. The Geological department has received some accessions of great interest. Through the liberality of Mr. J. G. Marshall and Mr. W. S. Ward, the Cavern Deposits have been much enriched by the acquisition of a nearly entire Skeleton of the Great

Cave Bear, (*Ursus Spelæus*.) a fine skull of the same animal, together with bones of the Rhinoceros, horns and jaws of two species of Deer, teeth of the Horse, and bones of the Hare, from the cave at Sundwig, in Westphalia. These specimens, when associated with the valuable series already in the Society's possession from the celebrated cave at Kirkdale, will afford an important and interesting illustration of the Fauna during the Post-tertiary epoch. The modern deposits have also received a further accession of Hippopotamic remains, from the Aire valley deposit at Wortley, from which it is now satisfactorily determined that at least four animals were deposited in that locality,—one very aged, two adult, and one very young; also some bones and a fragment of the tusk of the Mammoth, and a portion of the jaw and bones of the Urus, (*Bos primigenius*), were associated with the former. By this fortunate discovery, the Museum is probably in possession of the most extensive series of extinct Hippopotamic remains in the kingdom, not excepting that in the British Museum, as the majority of those in that magnificent collection were transmitted from India by Captain Cautley and Dr. Falconer. From the same bed of clay, at Wortley, has been obtained a fine stem of an Oak Tree 15 feet in height, presented by Mr. P. Hobson; also the stone of a Quern, and specimens of Pottery of a very early date, presented by Mr. T.

P. Teale. The whole of these specimens afforded the materials for an interesting communication read during the Session, by Mr. T. P. Teale, one of the Curators, on the "Aire Valley Deposit, and its Organic Remains." This circumstance, we trust, will not be lost sight of by other Members of the Society, either in making the contributions to the Museum available for Papers, or by taking advantage of any discoveries of local interest, to bring a notice of the same before the Society, by which means many facts of great importance may be permanently recorded, and a stimulus given to other individuals *not* connected with the Society, to transmit information on any points of interest, whether of a scientific or historic character; it being the legitimate province of Institutions of this nature, to collect and give permanence to all communications bearing upon the topography of the district.

In consequence of the great increase of Zoological specimens, and the old cases being found quite inadequate for their proper display, the Council have erected new cases in the East Gallery, in which will be placed some of the smaller Quadrupeds and Cetacea, and more space will be allotted to the Reptiles, Fish, and Invertebrata, which are undergoing re-arrangement.

To the collection of Comparative Anatomy, two interesting additions have been made, consisting of a

fine skeleton of the Red Deer, from His Grace the Duke of Devonshire, which completes the Osteological series of the Cervine Ruminants of the British Isles ; and from Mrs. Wombwell and Mr. Edmonds have been received two specimens of the American Tapir, one of which has been articulated, and forms a valuable accession to the illustrations of the Anatomy of the Class Pachyderma. To this class, also, the Society are in hopes of receiving important acquisitions from their Honorary Member, Mr. Boyne, who has promised to collect specimens for the Museum during his travels in Southern Africa,—a country peculiarly rich in the larger species of this interesting group of animals, as well as many other genera of quadrupeds, desiderata for the Museum. To the Horns of Ruminant Animals have been added a fine pair of the Cape Ox, by Mr. John Rhodes.

To the British Birds have been added five fine stuffed specimens of the Ruff, from Mr. Goodman, and several other species of Birds from Mr. Oxley, of Redcar.

Mr. T. P. Teale has presented thirty-four wet preparations of Fish, Crustacea, and Molluscous Animals, including a specimen of that rare British Fish, the Crested Blenny, taken on the Yorkshire coast.

The collection of Invertebrated Animals has also

received several additions, consisting of Foreign Shells, from Mr. W. S. Ward, Crustacea and Annelides, from Mr. T. P. Teale, jun., and a fine specimen of *Gorgonia Flabellum*, from Dr. Heaton.

The additions to the Library during the Session have been important and numerous. The British Government have contributed the *Magnetical and Meteorological Observations at Toronto and Hobarton for 1843, 1844, 1845, and 1846*. The Smithsonian Institution, at Washington, have transmitted many publications of their own, besides those published under the auspices of other bodies in the United States. From the Society of Arts, also, various Government Reports, and other works of interest, have been received. The Royal Societies of London and Edinburgh, and the Liverpool Philosophical Society, have presented their Proceedings; the Geological and Chemical Societies of London, their Journal; and many Provincial Institutions their Reports.

The Council, wishful to provide more space for the increasing wants of the Library, have determined to remove the Book Cases from the Council Room into that formerly used as a Laboratory.

It having appeared to the Council that a cheap guide to the objects in the Museum would be of great assistance to the general visiter, and would also be the means of imparting instruction on the

first principles of classification to those commencing the study of Natural History, it was determined to prepare such a desideratum, and the manuscript is now in the printer's hands.

From the number of individual specimens in the Museum, it was found utterly impracticable to make anything like a Catalogue of its contents, without defeating the object most desirable to be borne in mind—that of price. It was, therefore, decided to combine in a pamphlet the characteristics of the modern systems of classification, and to point out such illustrations of the different kingdoms of nature as the specimens in the Museum afford examples of, and enumerate the principal groups in each case, which will be numbered to facilitate the reference.

With regard to the Finances of the Society, the Council are not able to announce so large a balance in the hands of the Treasurer as at the close of the two last Sessions. The funds of the Society are, nevertheless, in a satisfactory state, there being, after defraying the heavy expenses of last year, a small balance in hand, exclusive of money yet to be received.

The Council have pleasure in reporting that the Meteorological Observations, which form one very important though unobtrusive business of the Society, have been steadily and satisfactorily carried

on. They hope that, in addition to their value as a contribution to the general Meteorological Observations in the kingdom, they will be found of special local value in relation to the sanitary condition of Leeds. The following abstract will show the monthly averages for the year 1853, and a Register of the daily observations can be inspected by any of the Members of the Society in the Library Room :—

1853.	Mean Temperature.	Mean Height of Barometer.	Amount of Rain in Inches.
January.....	43.7	29.500	2.965
February	35.2	29.592	0.385
March	40.0	29.941	0.860
April	51.8	29.721	1.160
May	51.1	29.836	1.195
June	59.7	30.042	2.405
July	61.0	29.832	2.190
August	61.9	29.774	1.400
September	55.9	29.819	1.685
October.....	50.0	29.515	3.190
November.....	42.8	29.911	2.165
December.....	39.5	29.859	0.460

The greatest degree of Heat, as indicated by the Thermometer, in the shade was 97°, on August 5th; the minimum, December 26th, 17°.

The greatest Barometric pressure was on April 13th and 18th, being 30.580 inches; the temperature of the Mercury being 59°. The least pressure was on September 25th, 28.754 inches; temperature 61°.

The greatest fall of Rain was on Wednesday, the 5th October, being 1.140 inches.

LEEDS PHILOSOPHICAL AND LITERARY SOCIETY.

ORDINARY ACCOUNT.

Disbursements.	£. s. d.	Receipts.	£. s. d.
By Insurance	8 8 4	To Balance in Treasurer's hands	91 10 11
Tradesmen's Bills	72 11 10	Do. Sub-Curator's hands	21 5 8½
Gas and Coke	9 7 11	Subscription of 79 Members	165 18 0
Coals	9 9 0	" 68 Subscribers	65 2 0
Printing and Advertising	28 18 9	Subscription and Deposit of 1 New Member	5 5 0
Books and Stationery	9 10 3½	" of 7 New Subscribers	7 7 0
Sub-Curator's Salary	120 0 0	Arrears of Subscriptions received	5 5 0
Porter	31 4 0	Cash received at Miss Glyn's Readings	18 6 6
Gratuity to late Porter	5 0 0	Rent of West Riding Geological Society	10 0 0
Purchase, Carriage, and Preparation of Specimens	6 7 2	" Cellars under the Hall	15 0 0
Water Rate	1 0 0	" Lecture Room	3 8 0
Expenses of Conversazione	18 13 3	Sale of 19 Copies of Transactions, at 3s. each	2 17 0
Less Receipts	6 0 0	Admission to the Museum	33 11 0
Miss Glyn, for Four Readings	52 10 0	Less Commission	2 14 0
Rent of Music Hall, and extra Attendance	16 12 0	Interest allowed by Treasurer	1 10 0
Sundry Expenses, Postage, Cleaning, &c.	15 8 9½	Less Commission	0 4 0
Subscription to the Society of Arts	2 2 0		
Expenses of New Cases in Museum	29 6 0		
Balance in hand	8 3 9½		
	£498 8 1½		£498 8 1½

To Balance in hand

To be received for Subscriptions

Ditto from the West Riding Geological Society

£8 8 9½

11 11 0

10 0 0

DONATIONS & ADDITIONS TO THE SOCIETY'S MUSEUM.

Those marked thus () are Honorary Members; thus (†) Members of this Society.*

GEOLOGY AND MINERALOGY.

- | | |
|---|----------------------------------|
| Three fine Specimens of Silver Ore, from Copiapo, in Peru | } W. R. Smiley, Esq.,
London. |
| Fine Skull of the Cave Bear; Bones of the Rhinoceros; Horns and Jaws of the Deer; Teeth of the Horse; and Bones of the Hare, from the Cavern at Sundwig, in Westphalia; Twenty Specimens of Minerals, including Apatite, Natrolite, Grenatite, Schaalsten, Braunsfalt, Zoisite, Idocrase, Spodumine | } †Mr. W. S. Ward. |
| Skeleton of the Great Cave Bear, (<i>Ursus Spelæus</i>) from the Cavern at Sundwig, Westphalia | } †J. G. Marshall, Esq., F.G.S. |
| Portion of the Lower Jaw, and Bones of the Urus; Bones of the Hippopotamus; and portion of the Tusk of the Mammoth, from the Aire Valley deposit, at Wortley | } Messrs. Longley. |
| Specimen of <i>Asaphus Buchii</i> , from Llandeilo | } †Mr. Boyce. |

ZOOLOGY.

- | | |
|--|-------------------------|
| Five Specimens of British Fish, consisting of the Lamprey, Pride, Char, Trout, and Pipe Fish; and the Skull of a Ram with four horns | } Mr. Oates, Spofforth. |
| Specimen of the Nutmeg, with its envelope of Mace..... | } Mr. Trant. |
| Fine Specimen of the Sea Fan, <i>Gorgia Flabellum</i> | } †Dr. Heaton. |

Forty Specimens of Shells, including Malleus vulgaris, and albus, Melo indica, Cassis rufa, Dolium perdix, Strombus lentiginosus, Murex loto- rium	} Mr. W. S. Ward.
Specimens of the Oyster-Catcher ; White fronted Goose ; Black backed Gull ; and Shieldrake	} C. E. Oxley, Esq., Redcar.
Skins of the Albatross, Shearwater, and Cape Pigeon	} Mr. W. S. Wade.
Thirty-four Wet Preparations of Fish, Crustacea, and Molluscous Animals ; including that rare British Fish, the Crested Blenny.	} Mr. T. P. Teale, F.L.S.
Specimens of the Dog and Pea Crab ; Common Crossfish, Eyed Cribella, Common Brittle-star, Common Heart Urchin, Lesser Weever, &c. .	} Mr. T. P. Teale, jun.
Five Stuffed Specimens of the Ruff ...	} John Goodman, Esq.
Specimen of the Common Sun Star...	} Master Nunneley.
Specimen of the American Tapir	} Mrs. Wombwell, Royal Menagerie.
Specimens of the American Tapir, Boa Constrictor, and Monkey	} Mr. Edmonds, Royal Menagerie.
Fine Pair of Horns of the Cape Ox, or Africander	} Mr. John Rhodes.
Three Nests of the Harvest Mouse, from Wiltshire	} Mr. J. R. Hubbard.
Exuvise of the Common Shrimp	} Miss Ayrton.
Specimen of the Cardinal Grosbeak...	} Mrs. Wright.
Specimen of the Coot.....	} Mr. A. Motley.
Several Calculi taken from the stomach of a Horse	} Mrs. Wilson.
Fine Skeleton of the Red Deer, from Bolton	} His Grace the Duke of Devonshire.
Fine Snout of the Saw Fish	} Mr. A. Beckwith, Demerara.

MISCELLANEOUS.

Bust of the late M. T. Sadler, Esq., M.P.	} William Behnes, Esq., Sculptor.
A Bottle of Yaba, or Mati, from Paraguay, used by the natives as tea	} W. R. Smiley, Esq., London.

- One hundred and fifty Roman and Greek Coins } †Mr. W. S. Ward.
- Belt worn by the natives of the Fee Gee Islands } Mr. W. S. Wade.
- Part of a Quern, and Specimens of Pottery, from the Aire Valley Deposits, at Wortley } †Mr. T. P. Teale, F.L.S.
- Fine Stem of an Oak Tree, 15 feet in length, from the Aire Valley Deposits, at Wortley } Mr. P. Hobson.
- Various Weapons, Utensils, and Ornaments of Dress from Solomon's Island } †Mr. Edw Holt.

LIBRARY.

- Observations made at the Magnetical and Meteorological Observatory at Hobarton, Van Diemen's Island ... } Her Majesty's Government, by Col. E. Sabine.
- A Descriptive Catalogue of the London Tradesmen's, Tavern, and Coffee-House Tokens in the 17th Century, by Jacob Henry Burn: 8vo. } The Library Committee of the Corporation of the City of London.—Guildhall.
- The Ninth Bridgewater Treatise, by Charles Babbage: 8vo. Essays on Political Economy, by the late M. F. Bastiat: 12mo. } Messrs. W. and T. G. Cash, (the Publishers.)
- National Education Report for Ireland, from 1884 to 1881: 7 vols., 8vo. ... } The Society of Arts.
- An Education at Home and Abroad, by G. W. Yapp..... } The Society of Arts.
- History, Condition, and Prospects of the Indian Tribes of the United States, by H. N. Schoolcraft, LL.D. Vol. 3, 4to..... } The Commissioners of Indian Affairs.
- Maury's Sailing Directions: 4to. } From the Superintendent of Ringgold's Charts of California: 8vo. } the National Observatory.
- Smithsonian Contributions to Knowledge: vol. 5, 4to. Sixth Annual Report of the Regents of the Smithsonian Institution for 1852. Stansbury's Expedition to the Great Salt Lake: 2 vols., 8vo. Report on the Geology of the Lake Superior land districts, by S. W. Forster, and J. } The Smithsonian Institution, Washington.

- D. Whitney : 8vo., with chart. Meteorological Tables prepared by Arnold Guyot : 8vo. Catalogue of Stanley's Indian Portrait Gallery, 1852 : 8vo. Catalogue of North American Reptiles in the Museum of the Smithsonian Institution, Washington, by S. F. Baird, M.D., and C. Girard. Memoir and Maps of California, by Cadwalader Ringgold.)
- The Smithsonian Institution, Washington.
- Magnetical and Meteorological Observations at Toronto, for 1843, 1844, and 1845)
- Her Majesty's Government, by Col. E. Sabine.
- Annual Report of the Manchester Natural History Society)
- The Council.
- Colonie Agricole et Penitentiare de Mettray, 1853)
- Robert Hall, Esq., London.
- Notice sur Mettray, par Augustin Cochin)
- Report on the Organization of the Permanent Civil Service. Letters on the Condition of the Working Classes of Nassau, by T. Turning...)
- The Society of Arts.
- The Quarterly Journal of the Chemical Society, Nos. 20 to 25.....)
- The Chemical Society of London.
- Facts and Theories, or the Real Prospects of the Beet Sugar Manufacture in Ireland, by W. K. Sullivan
- Results of Sanitary Improvement, by Southwood Smith, M.D. Practical Observations on Surveying and Levelling, by T. Sopwith, F.R.S. Historical and Descriptive Account of the Suspension Bridge over the Menai Strait, by W. A. Provis : atlas folio.....)
- The Society of Arts.
- Proceedings of the Literary and Philosophical Society of Liverpool, No. 7.)
- The Council.

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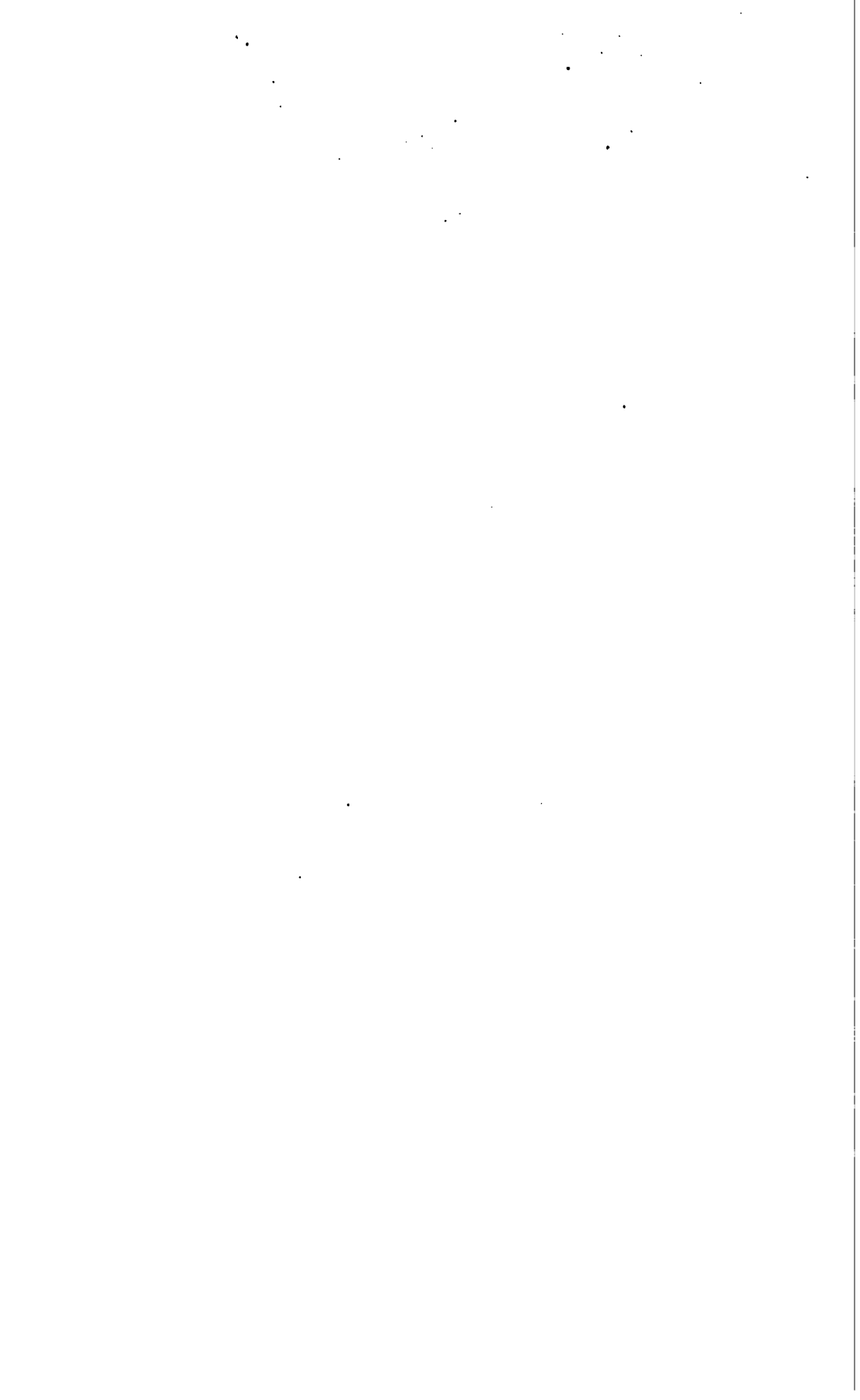
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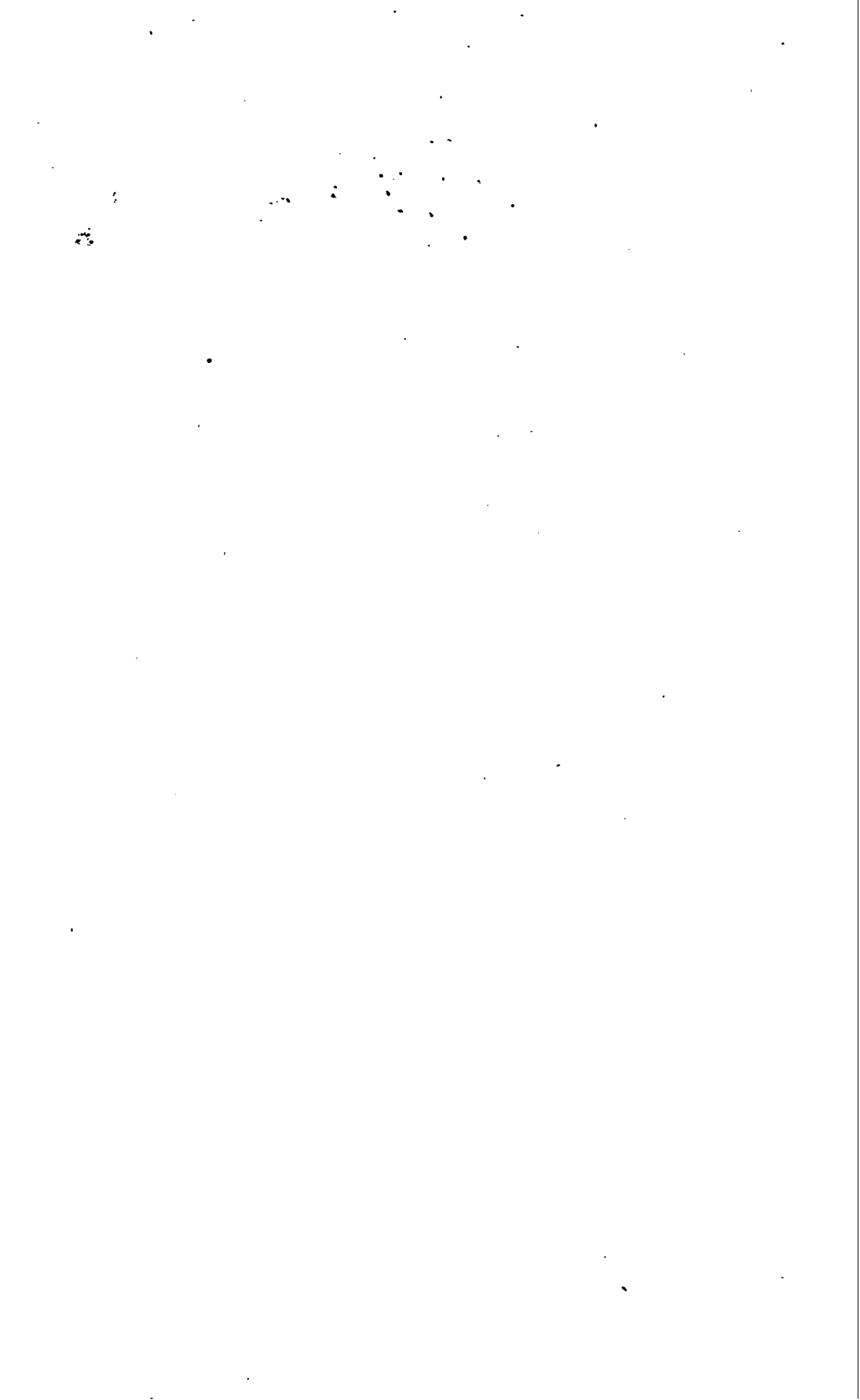
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The Boston Natl Hist Society
with A Denny's Compl

Mr Denny will be happy to continue
these Reports annually if desired.

Rec^d. Oct. 157

LEEDS
PHILOSOPHICAL & LITERARY
SOCIETY.

THE ANNUAL REPORT
FOR 1854-5.

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Boston Society of Natural History.

From

Received

THIRTY-FIFTH REPORT
OF
THE COUNCIL
OF THE
LEEDS
PHILOSOPHICAL & LITERARY
SOCIETY,
AT THE CLOSE OF THE SESSION,
1854-5.

LEEDS:
PRINTED BY G. KEMPLAY, INTELLIGENCER-OFFICE.
MDCCCLV.

FORM OF A BEQUEST TO THE SOCIETY.

Every person desirous of bequeathing to the Society any Sum of Money, Specimens, Books, Instruments, or other Property, is requested to make use of the following Form :—

I give and bequeath to the Trustees for the time being, of the Society established at Leeds, called "THE LEEDS PHILOSOPHICAL AND LITERARY SOCIETY," for the use of the said Society, the sum of _____ to be paid out of such part of my Personal Estate as I may legally charge therewith. [Or here enumerate the effects or property intended to be bequeathed.] And I direct that the Receipt of the Treasurer of the said Society for the time being, shall be an effectual discharge to my Executors for the said legacy.

REPORT OF THE COUNCIL,

AT THE CLOSE OF THE

THIRTY-FOURTH SESSION.

THE Leeds Philosophical and Literary Society has been exempt from those fluctuations, to which many institutions are liable, and now closes its 35th Session with that steadiness, both as to its Members, and its operations, which has been its distinguishing characteristic. Its members remain nearly stationary; the losses arising from death, removal, or other causes during the year having been replaced by the accession of three new Members and eleven new Subscribers. This would itself be a proof of the inherent strength of the Society; but considering the disadvantages of the past year, it affords special grounds for satisfaction. The Society has not only been exposed, in common with others to that severe test of strength to which times of commercial pressure subject all such associations; but it has had to encounter the additional disadvantage of the uncertainties incident to a pending negotiation for union with the Leeds Library. These uncertainties have prevented any active or systematic canvass for Members during the past Session, and probably have induced some well wishers to the Society to suspend their accession to it till its future course was settled. The Council therefore hope that with the removal of these uncertainties, which cannot be distant, and still more with the return, whenever it arrives, of greater commercial activity, their numbers (whether they continue a separate institution or

become an integral part of one formed by a union with the Library) will increase in proportion to the increased population, wealth, and intelligence of the town and neighbourhood. They are the more encouraged in this hope, because they cannot but be sensible that, since the formation of the Society, both the demands and the taste for literary and scientific attainment have increased in Leeds in a ratio far exceeding the numerical increase of population ; and they are persuaded that there are now great numbers within reach of the Institution who have not yet joined it, and would derive no less benefit than pleasure from doing so.

The Papers read at the Ordinary Meetings have been of varied interest, and generally characterized by great ability and research. The average audience, though not so numerous as might be hoped and expected, has equalled, if not exceeded, that of the preceding Session. The discussions at the close of the Papers have been interesting, but it is much to be regretted that a greater number of the Members and Subscribers do not join in this important part of the Society's proceedings : a free and friendly discussion at the close of a Paper is both the highest compliment to the writer, and the best means of eliciting and impressing clear and accurate views on the subject of the Lecture.

The following is a list of the Papers read during the Session :—

1. " On the History of English Municipalities"—by J. H. Shaw, Esq.,
President—(Read Oct. 24th, 1854.)
2. " On the Writings of Le Sage"—by Mr. C. C. Clarke—(Read Nov. 7th, 1854.)
3. " On Oxford"—by Rev. Wm. Sinclair, *Vice-President*—(Read Nov. 21st, 1854.)

4. **The Converzatione**—(Dec. 5th, 1854.)
5. "On Greece"—by Mr. W. Osburn, M.R.S. Lit.—(Read Dec. 19th, 1854.)
6. "On News : its Channels and Recipients"—by Mr. C. Kemplay—(Read Jan. 2nd, 1855.)
7. "On the Criminal Statistics of the Borough of Leeds, for 1852-3"—by Robert Baker, Esq.—(Read Jan. 13th, 1855.)
8. "Russia, Geographically, Politically, and Socially Considered"—by Thomas Wood, Esq., Barrister-at-Law—(Read Feb. 6th, 1855.)
9. "On the Chemistry of Manufactures"—by Mr. E. H. Durden—(Read Feb. 20th, 1855.)
10. "On the Relations of the Polarity in the Distribution of Organized Beings in Time, discovered by the late Professor Edward Forbes, to the General Distribution of Organized Beings inter se, discovered by Mr. Wm. Sharpe Macleary"—by Mr. E. W. Brayley, F.R.S., &c.
11. "A Review of Foster's Essay on Decision of Character"—by Rev. John R. Stratten—(Read March 20th, 1854.)
12. "On the Chemistry of Common Life"—by Professor Johnston—(Read April 3rd, 1855.)
13. "On the Causes which influence Health and Disease in Leeds, viz., Climate, Soil, Water, Dwellings, Habits of the People, &c."—by Mr. Morley—(Read April 17th, 1855.)

Two courses of Lectures have been delivered during the Session. The first course was given by Mr. C. C. Clarke, whose popular talents as a lecturer are well-known to this Society. The series consisted of Four Lectures on Four of the Great European Novelists:—Boccacio, Cervantes, Le Sage, and Richardson. The Lectures were delivered in Mr. Clarke's accustomed happy manner, and attracted numerous audiences. The second course was delivered by Mr. Brayley on "Physical Geography," in which he gave a resumé of the recent discoveries in that branch of science. During his stay in Leeds Mr. Brayley also read a Paper at a General Meeting, on one of those highly interesting speculations which science presents. It

will be seen from the above List of Papers that the Society has had the good fortune to number Professor Johnston among the Lecturers of the Session. The Professor, who is an Honorary Member of this Society, kindly offered the Paper referred to while spending a few days with the President.

In accordance with the recommendation contained in the last Report, the Council made arrangements for the delivery of another course of four Juvenile Lectures during the Christmas vacation. Three Gentlemen kindly gave their services, and selected the following subjects for their Lectures:—

1. "A Child's account of the War in which England and France are at present engaged—by Mr. C. G. Wheelhouse.
2. "On Food, or what do we live upon"—by Mr. Scattergood.
3. "On Optics and the Construction of the Eye"—by Mr. Nunneley.

The Lectures were delivered at three in the afternoon in order to suit the convenience of the Juvenile audience, for whose benefit they were chiefly intended. They proved very attractive, and were well attended, not only by a juvenile auditory, but by members and friends of more advanced years, to whom they afforded much useful and practical knowledge as well as a highly intellectual gratification.

The Annual Conversazione was held in December last, and was numerously attended. The collection of Coins and Medals, bequeathed by Mr. Baron to the Society, which were on this occasion exhibited for the first time to the Members, excited much interest. An extensive series of Photographs, by Members of the Leeds Photographic Society, and various illustrations of the seat of War in the Crimea, were also among the attractions of the evening. The Literary communications were:—

1. "Christopher North and the founders of Blackwood's Magazine"—by
Rev. Mr. Sinclair.

2. Notice of the Coins and Medals, bequeathed by the late George Baron, Esq.,—by Mr. Commissioner Ayrton.
3. Notice of the valuable Books bequeathed by the late Mr. Baron—by Dr. Heaton.
4. "On some recent applications of Chemistry to the Arts and Manufactures"—by Mr. Durden.

The number of Visitors to the Museum, although not quite as great as in the preceding year, has been steady and satisfactory, and the Council have no doubt that eventually the expectations of the promoters of the present mode of admission will be realized. The net receipts from this source amount to £29, while the receipts of last year were £31. 17s.

The most important feature of the past Session has been the munificent bequest to this Society, by the late George Baron, Esq., of Drewton Manor, of his valuable collection of Coins and Medals, and Books on the Study of Archæology, accompanied with a Legacy of £100 towards the expense of removing the collection and providing a suitable place of deposit.

This collection, perhaps the most extensive and important of its kind which was ever bequeathed to a Provincial Institution, will be the more highly appreciated by the Society, as the Museum previously possessed very few Numismatic Specimens, and those few of a very inferior description. By this timely acquisition, however, the Society has now a series of upwards of 2000 Coins and Medals of great variety and beauty, which the Testator had been collecting for a long period at very great expense and with most persevering industry.

It includes 216 Gold Coins and Medals, 1259 Silver ditto, 246 Bronze ditto, 363 Roman and Greek Brass ditto, besides various Tokens, Money Weights, &c. The Coins consist of Roman, Greek, Saxon, Early British, English, Scottish and

Oriental examples, besides 600 Casts from Roman large Brass Coins in the collection of Admiral Smyth. The Medals contain a beautiful series of Papal, several Napoleon, and others commemorative of celebrated Historical Personages and Events.

A catalogue of the whole is in preparation, which already includes a series of 664 Silver, Consular, and Imperial Coins and Medallions, and 154 Gold of the same class. Amongst which are remarkably fine examples of Cnaeus Pompeius, Julius Caesar, Marcus Antonius, Drusus Senior, Antonia, Caligula, Otho, Plotina, Marciana, Matidia, Commodus, Pertinax, Crispina, Gordianus Africanus, Sen. and Jun., Trajanus Decius, Vetrano, Justia Grata Honoria, and many others of great variety and in a high state of preservation.

The Greek Coins and Medallions also contain some exquisite specimens, exhibiting art from its rudest to its highest state of perfection, on the currency of its Cities and Princes, as those of Syracuse, Corinth, Ephesus, ~~E~~gina, and Macedonia, those of Philip, Alexander, Lysimachus, and Antiochus. The early British contain a fine gold coin of Cunobeline. Amongst the Scottish Coins may be named a fine Testoon of Mary, and the Gold Bonnet piece of James Fifth, and a Crown of James VIII.

The English series, although it contains several interesting and valuable Gold and Silver Coins, is yet the most incomplete portion of the collection; and it is hoped that a department so intimately connected with our Historical Associations will be enriched by additions from Members and Friends of the Society who may have it in their power to supply the deficiencies. It is highly desirable that the West Riding should possess a complete series of our National Coins, in one of its Public Institu-

tions ; and as Mr. Baron has thus enriched his native town by this liberal example, the Council hope that other Friends (whether Members of the Society or not) who may be in possession of Coins or other objects of interest will make them in the noblest sense heir looms of their families by extending the benefit of them to the community.

The Council are happy to announce that in two instances already since the above collection has become the property of the Society, contributions of Coins which were desiderata have been received from Mr. R. B. Turner and Mr. Calvert.

Upon the receipt of so valuable a bequest as Mr. Baron's the Council felt considerable anxiety as to the future security of the collection. Although fully aware of the desirableness of exhibiting as large a portion of the Coins, &c., as possible in a public Institution, for the pleasure and information of visitors, they felt this could only be done so far as was compatible with their safety. After taking therefore the opinion of Mr. Hawkins, of the British Museum, and other parties conversant with such subjects, they determined to deposit the Cabinets in one of Milner's fire proof safes, and exhibit only the fine series of casts of rare Roman Coins and Medals. By this course the collection will always be available upon proper application, and no fear need be entertained as to the safety of any portion of a bequest, so honourable to the memory of Mr. Baron as the donor, and to this Society in having been selected as its recipient. In accordance with this determination a safe has been obtained and the collection placed in it.

The departments of Geology and Mineralogy are indebted to the representatives of the late Miss Fearn, who, bearing in mind the great interest that lady always took in the prosperity of the ;

Society, most liberally presented to the Museum her collection of Fossils and Minerals, consisting of several hundred specimens illustrative of the Geology of the Yorkshire coast, and many fine specimens of Agates, Jaspers, and Crystals of Quartz. From Mr. Baron's executors has also been received several interesting and select Minerals, and remarkably fine specimens of Bisulphurets of Zinc and Copper, in mass and crystals, from the Pencorse Consuls Mine, Cornwall, by John Marshall, Esq., Chairman of the Company.

To Messrs. Moss, of Kiltairnan, near Dublin, the Society is indebted for the Head and Horns and several Bones of the gigantic Deer, found in cutting a water course for their mill.

In Zoology many contributions of great interest have been received. From our Honorary Member Mr. Boyne, Skins of the Hyæna, Jackall, Hyrax, Chrysochloris, and Sandmole, a fine Skull of the Lion, several Horns of Antelopes, Tusks of the Hippopotamus, 30 Skins of Birds, and Specimens of Termites and other Insects, collected by himself in the neighbourhood of Port Natal. From the Right Hon. Earl Fitzwilliam a fine Skeleton of the Zebu or Indian Buffalo—also another example of the same animal from Mr. G. M. Palmer, of Wentworth; 16 Skins of South American Birds from Mrs. Thos. Butler, of Burley—and a fine pair of the Banksian Cockatoo, from Mr. W. G. Joy. The collection of British Birds has received a larger accession of rare species than usual in one session. His worship the Mayor, Joseph Richardson, Esq., presented a fine specimen of the Crane. Wm. Gott, Esq., an Egyptian Goose and Woodchat; and in consequence of an opportunity having occurred of adding several important species, by purchase, a subscription was commenced among some of the Members by which means the follow-

ing Birds which have long been desiderati were secured for the Museum, viz., the Black Stork, Stilt Plover, Pink-footed Goose, Black-tailed Godwit, Rock Pigeon, Little Grebe, in summer plumage, &c. A specimen of that rare British Bird the Greater Sheerwater, having been taken in Leeds, was purchased by the Society, as also a fine male of the Velvet Duck.

The specimens of those remarkable blind animals, the *Amblyopsis Spelæus*, and *Astacus Bartoni*, from the Great Cave in Kentucky, U.S., presented by Mr. Firth, are important acquisitions, in illustration of the Natural History of that singular subterranean locality.

The Mollusca have been increased by the liberality of another of your honorary members, Joseph Clark, Esq., of Cincinnati, U.S., who has kindly promised more contributions, especially among the Unionidæ from the United States, a country peculiarly rich in in the species of that family.

Since the last Annual Meeting the Fishes, Reptiles, and Invertebrate animals have been arranged in the New Cases recently erected in the Gallery, which afford ample space for the specimens already in the Society's possession, as well as provision for future additions to these departments.

The Miscellaneous Antiquities and Works of Art have received a few accessions. The Pikeman's Armour of the time of Charles I., presented by George Tatham, Esq., forms a valuable addition, as the Museum previously contained no objects of this class. In prosecution of the sewerage excavations near Thwaite Mills, an ancient *Leister* for taking fish, supposed to be of Scandinavian manufacture, was found and presented by Mr. Newsam. This, taken in connexion with ancient canoes and other works of human construction which have occurred at dif-

ferent periods in the neighbourhood, may throw some light upon the early colonization of this part of Britain. From the high peaty land above Meanwood a Quern Stone was obtained, and presented by Mr. Midgley.

An interesting series of twenty-two specimens, illustrative of the manufacture of Price's Stearine Candles, has been received from the enterprising Manager of that establishment, Mr. Wilson, and presented to the Society through Mr. Durden.

The additions to the Library have been very important and numerous, chiefly from the bequest of Mr. Baron, from which source alone have been added to it 130 volumes and 61 distinct works, embracing some of the most important and standard publications on Numismatology and Archæology, as Mionnet's *Description de Medalles Antiques*, Gesnerus's *Numismata Antiqua*, Morell's *Thesaurus*, Banduri's *Numismata Imperatorum Romanorum*, Ducange's *Glossarium*, Montfaucon's *Antiquities*, Camden's *Britannia*, Visconti's *Iconographie Grecque*. The *Harlean Miscellany*, Ruding, Akerman's, Hawkins, and Smyth's *Works on Coins*, &c.

By direction of the British Government, the *Memoirs of the Geological Survey of Great Britain*, the *Decades of British Organic Remains*, and the *Records of the School of Mines*, have been transmitted to the Society, and various Reports, Journals, and Transactions of Metropolitan and Provincial Societies have been received.

The Council regret that their Financial Report shews a deficiency of £38. 15s. 0½d. beyond the amount of the uncollected Subscriptions, &c. If this arose from an excess of ordinary expenses above income, it would be a cause for still more serious regret. It has, however, arisen from casual circumstances;

amongst which may be specified the loss of rent, the cellars under the Hall having been unlet for nearly a year ; an expenditure of £19 in printing the Guide to the Museum, and of £35. 8s. 9d. on the Safe for the Coins bequeathed by Mr. Baron, and the cost of removing them to Leeds—which the Legacy of £100, soon to be received, will be applied to replace.

Upon the very important question of Union between this Society and the Leeds Library, the Council have to report that after several meetings of deputations from both bodies, and a very full and careful consideration of the subject in its various bearings, it was determined to recommend the following bases for union to the members of both bodies :—

The Annual Subscription to the United Institution to be 25s. for the personal privileges of the two Institutions, with such further payment for privileges to Members of Families of Shareholders as may be hereafter arranged by the united body.

New Tickets for the United Institution to be £10, besides the Annual Subscription.

Proprietary Members of £100 Shares in the Philosophical Hall, to hold a Share in the United Institution for each Proprietary Share in the Hall, to be exempt from Annual Subscription, and to retain their existing privileges of having two additional Free Tickets of Admission to Lectures and Papers.

Ordinary Members of the Philosophical Hall may become Shareholders in the United Institution on payment of £5 and the Annual Subscription.

All existing Subscribers to the Philosophical Hall to be entitled to Tickets in the United Institution on payment of £7.

Each Shareholder in the Library to hold a Share in the United Institution, with no payment but that of the Annual Subscription.

That it be recommended to the Joint Committee that the number of Shareholders in the United Institution shall not be above 1500, without the consent of three-fifths of the then Shareholders present at a Special Meeting.

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Whether, however, the Leeds Philosophical and Literary Society should hereafter form a part of an important united body, or continue to depend (as it has successfully done for 35 years) on its own separate claims to support, the Council have the fullest confidence that the town and neighbourhood of Leeds will cheerfully afford the means of promoting the objects for which it was formed, to an extent and with a vigour worthy of a great and enlightened community.

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To Balance in hands of the Sub-Curator	8	8	9½
Subscription of 71 Member at 42s. each	189	2	0
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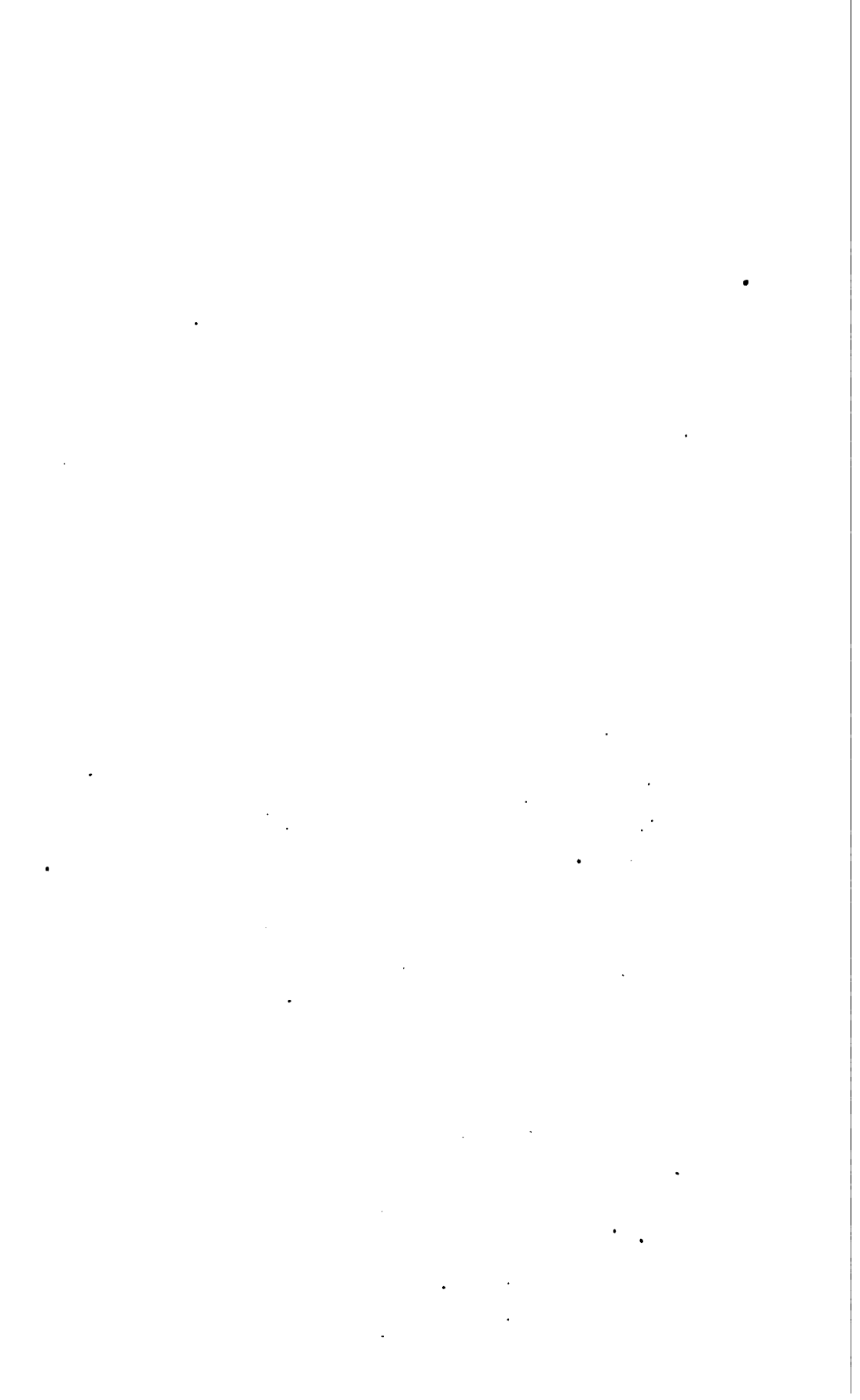
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1855-6.

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PRINTED BY J. HEATON & SON, 7, BRIGGATE.

MDCCLVI.

FORM OF A BEQUEST TO THE SOCIETY.

Every person desirous of bequeathing to the Society any Sum of Money, Specimens, Books, Instruments, or other Property, is requested to make use of the following Form :—

I give and bequeath to the Trustees for the time being, of the Society established at Leeds, called "THE LEEDS PHILOSOPHICAL AND LITERARY SOCIETY," for the use of the said Society, the sum of
to be paid out of such part of my personal Estate as I may legally charge therewith. [Or here enumerate the effects or property intended to be bequeathed.] And I direct that the Receipt of the Treasurer of the said Society for the time being, shall be an effectual discharge to my Executors for the said legacy.

REPORT OF THE COUNCIL

AT THE CLOSE OF THE

THIRTY-SIXTH SESSION.

The Council of THE LEEDS PHILOSOPHICAL AND LITERARY SOCIETY, in presenting the Annual Report at the close of the Thirty-sixth Session, have much satisfaction in laying before the Members and Subscribers, the proceedings of the Society during the past year. The Papers read at the Meetings have possessed more than ordinary interest, and in the subjoined List will be found the names of several eminent individuals, who it is hoped will again be induced to benefit the Society by their contributions.

The discussions, however, at the close of the Papers, though improved in comparison of the last with some former Sessions, are not yet so general as could be desired, and the Council would urge upon the Members and Subscribers the importance of their joining more frequently in this interesting part of the Society's proceedings.

The following is a List of the Papers read during the Session :—

1. "On the Origin of the English Parliament,"—by the President—
(Read Oct. 30th, 1855.)

2. "Personal Recollections of a Tour in Southern India,"—by the Rev. W. Sinclair, V.P.—(Read Nov. 6th, 1855.)
3. "On the Life and Character of John Duke of Marlborough,"—by the Rev. Dr. Hook—(Read Nov. 20th, 1855.)
4. "On the Growth of London, and other large Towns in the United Kingdom, with suggestions for their better Architectural Arrangements, Internal Communication, and Sanatory Improvements,"—by Sir Jos. Paxton, M.P.—(Read Dec. 4th, 1855.)
5. "On Man and Nature,"—by the Rev. G. W. Conder—(Read Dec. 18th, 1855.)
6. The *Conversazione*—(Jan. 15th, 1856.)
7. "On the Currents produced by the Action of the Winds and Tide; also the Structures formed in the Deposits accumulated under their influence, which enable us to determine the Physical Geography of the Seas at various Geological epochs,"—by H. C. Sorby, Esq., of Sheffield—(Read Feb. 5th, 1856.)
8. "On the State of the Controversy as to the Plurality of the Worlds,"—by the Rev. A. Barry—(Read Feb. 19th, 1856.)
9. "On some attempts to Discover a System of Reformation for adult Criminals,"—by Robert Hall, Esq., Barrister-at-Law—(Read March 4th, 1856.)
10. "Notes from Scutari,"—by Dr. G. P. Smith—(Read March 18th, 1856.)
11. "On Zoophytes, their Structure and Economy,"—by the Rev. Thos. Hincks—(Read April 1st, 1856.)
12. "On Books and Book-collectors,"—by Mr. R. Harrison—(Read April 15th, 1856.)

Previous to the opening of the Session a deputation was appointed to wait upon Lieut. Col. RAWLINSON, C.B., with a request that he would favour the Society with a

Lecture upon his researches in Assyria and Babylonia. To this request Col. RAWLINSON kindly acceded, and in the latter part of October last, before one of the most numerous audiences ever assembled in the Society's Hall, gave a graphic and lucid resumé of his labours, which have resulted in perhaps the most important Archæological discovery made in modern times in connexion with Biblical History.

Col. RAWLINSON has been unanimously elected an Honorary Member of the Society, as a tribute to his unwearied exertions for the elucidation of the long lost Language and Literature of so celebrated a people.

One Course of Lectures has been delivered during the Session. The Series consisted of four Lectures by Mr. C. COWDEN CLARKE, on the Genius and Writings of Molière. The Lecturer, as on all former occasions, attracted numerous audiences. As Mr. CLARKE is about to retire into private life, and to reside on the Continent, this Course will probably be the last he will deliver before the Society. The Council were desirous to engage a Lecturer of eminence to give a Course on a Scientific subject, but were unsuccessful in their endeavours. The Juvenile Lectures having proved highly successful during the two preceding Sessions, arrangements were made for a Course during the past year. Mr. W. S. WARD and Mr. DURDEN kindly gave their services, the Lectures were delivered during the Christmas vacation, at three o'clock in the afternoon, as on previous occasions, and were numerously

attended. The subjects were "Photographic Chemistry," in two Lectures by Mr. W. S. WARD, and two Lectures on "The Chemistry of War and Peace," by Mr. DURDEN.

The Annual *Conversazione* was held in January last. It presented many varied attractions, and was numerously attended. Among the objects of interest exhibited during the evening may be mentioned a highly valuable series of Autographs and Holograph Letters of Royal and celebrated personages, contributed by P. O'CALLAGHAN, Esq.; various Relics from Kertch, and from the fields of the Alma, Balaklava, and Inkerman, contributed by Capt. MARKHAM and Dr. G. P. SMITH; also an extensive collection of Foreign and Native Photographs and other Works of Art, contributed by several Members and Friends of the Society.

During the evening some remarks illustrative of the Autograph Letters were made by P. O'CALLAGHAN, Esq. Short Papers were read, "On the Construction and Properties of the Stereoscope," by Mr. NUNNELEY; "A few words on Homer," by Mr. WM. OSBURN; "A few remarks on the process called Nature Printing," by Dr. G. P. SMITH.

The most valuable and interesting Donation during the Session has been that made by JOHN and WILLIAM GOTT, Esqs., of a beautiful Marble Bust upon a Pedestal, of the late BENJAMIN GOTT, Esq., the work of JOSEPH GOTT, of Rome. The Council feel much gratification in recording this memorial of another of the Founders and munificent supporters of the Society.

When the project to establish a Philosophical Society

in Leeds was proposed, Mr. GOTT was the second individual who put his name down as a Proprietary Member, and after sufficient funds were supposed to be raised to justify the erection of a suitable building for the purposes of the Society, he laid the first stone of the present Hall, on the 9th of July, 1819. When it was subsequently found that the sum originally estimated by the Architect was inadequate to the completion of the building in a way commensurate with the wants of the Society, Mr. GOTT and the late Mr. MARSHALL promptly came forward with that public spirit for which they were both so distinguished, each taking five additional £100 shares, and stimulating others by their munificent example to contribute towards the required amount. At subsequent periods, to the close of their valuable lives, these Gentlemen were always ready with their purse and counsel to promote the interest of the Society.

The Donations to the Museum embrace several specimens of great interest and value. In the departments of Geology and Mineralogy, the principal additions consist of a Cast from a very fine leg bone of the Mammoth, found in digging marl at Harswell, near Pocklington, lately deposited in the Museum of the Yorkshire Philosophical Society, which is probably the most perfect specimen of the tibia of this animal known, and which has been presented to this Society by the Yorkshire Natural History Society. And a magnificent specimen of Sulphuret of Copper, from the Queen of Dart Mine, Devon, weighing 2cwt. 2qr. 13lbs.,

presented by John Marshall, Esq., of Horsforth Hall, Chairman of the Company.

In the Zoological department, the most important acquisitions are, a splendid stuffed specimen of the South African Lion, shot during the Kaffir war, presented by Mr. Nunneley, one of the Curators.

The Skeleton of the Chimpanzee, presented by several Members of the Society (whose names appear in the List of Donations appended to the Report) forms a highly important and interesting addition to the Osteological specimens, from its presenting the nearest approximation to the human skeleton.

That the Museum does not possess the Skeleton of the Human subject the Council much regret, but trust that this highly important desideratum will eventually be supplied by some of the Members of the Medical profession.

To the collection of British Birds several specimens of great rarity have been added, by the liberality of the following Members. These consist of two specimens of the Jer and Iceland Falcons, by John Gott, Esq. Specimens of the Hawk-headed Owl and Pratincole, by J. G. Marshall, Esq. Fine pair of the Little Bustard, by T. W. Tottie, Esq. Specimen of the Honey Buzzard, by Wm. Aldam, Esq. Pair of the Roller, by John Botterill, Esq. Little Owl and Scops Owl, by Geo. Walker, Esq. Canada Goose, Little Gull, Grey Phalarope, and Lesser Spotted Woodpecker, by George Noble, Esq. Red-breasted Merganser, and Greater and Lesser Spotted Woodpeckers, by

Arthur Marshall, Esq. Fine Skull of the Gnu of Southern Africa, and a Specimen of the Boa from Port Natal, by Wm. Boyne, Esq.

The Class of Mollusca has received a most important addition in the Suite of upwards of one hundred Land and Fresh Water Shells from the United States, many of which exhibit a series of the Shells at different periods of growth;—a circumstance which adds much to the interest of the collection: the whole of which have been collected and named with great care, and presented by Joseph Clark, Esq., of Cincinnati, one of our Honorary Members.

From the same Gentleman the Collection of Fishes has received the accession of a fine specimen of that singular and rare species, the Paddle Fish, together with the Shovel-nosed Sturgeon, and three very perfect specimens of the Gar-fish of America (*Lepidosteus Oxyurus*), a genus possessing peculiar interest, from its being almost the only living analogue of the Ganiod Fishes of a former epoch.

The Herbarium has received from Dr. W. F. Chorley, of London, a valuable contribution of upwards of two thousand specimens of British Plants.

The Library continues steadily and satisfactorily to increase: amongst the additions during the Session which claim special notice, is the presentation by His Royal Highness Prince Albert of a beautiful volume on the Natural History of Dee Side, by the late Professor Mac-

gillivray, printed by command of Her Majesty. The Society is again indebted to the Smithsonian Institution at Washington for various valuable publications of their own, and of those of several public bodies and private individuals in America, which had been placed at their disposal. The American Philosophical Society, as usual, has presented its Transactions. Francis Carbutt, Esq. has presented thirty-six volumes of Reports and other public Documents connected with the American Government. To Professor Sedgwick the Society is indebted for his splendid work on the British Palæozoic Rocks and Fossils. From the Zoological, Geological, and Chemical Societies of London and various provincial Institutions, their Transactions and Reports have been received.

The Descriptive Catalogue of Mr. Baron's extensive and munificent Donation of Coins is far advanced towards completion: it will greatly enhance the interest, as well as exhibit the extent and intrinsic value of the collection, and point out to Members and Friends of the Society such Coins as may be required to complete a series so nobly begun by Mr. Baron; which the Council hope it will be the pride and endeavour of the Members to accomplish, in order that the Numismatic Collection of the Leeds Philosophical and Literary Society may not be second to that of any provincial Institution in the kingdom.

That Leeds should attain this pre-eminence at no distant time, the Council believe any competent judge will

consider practicable, after an examination of the valuable nucleus bequeathed by Mr. Baron. In order to further an object alike honourable to the memory of the Founder of the Collection and to the town of Leeds, the Council would suggest that no opportunities should be lost of securing any deposit of Coins which may be discovered: selecting from public sales, or examining such single specimens of Coins as are frequently to be seen unappreciated in the hands of private individuals, and which might happen to be important acquisitions to the Society's cabinet.

Since the last Report it affords the Council much pleasure to record the Donation, by Mr. Boyne, of several Silver Coins, towards completing the English series. That Gentleman has also replaced many others of inferior value, by specimens in a high state of preservation from his own cabinet.

The number of Members and Subscribers remain nearly the same as during last Session. One new Member and sixteen Subscribers have been elected, who counterbalance within two Members the losses from change of residence and death. The Council are gratified in being able to report that the small Balance which the Treasurer's Account shows against the Society will by the collection of its present assets be not only discharged but a balance left in favour of the Society of more than £30.

During the Session the Society has lost the valuable services of one of its early Members, WM. WMS. BROWN, Esq., who for the long space of twenty-nine years officiated

as Treasurer. He was also a liberal contributor to its funds whenever assistance was required.

The number of Visitors to the Museum has been rather below that of last Session. Fluctuations, however, of this nature, will always depend much upon other temporary attractions which occasionally present themselves. The amount received for admissions, deducting the Commission, is £28 15s. 10d.

The Meteorological Observations are continued as usual, and from the daily Register the following abstract is extracted to show the monthly averages for the years 1854 and 1855 :—

1854.	Mean Temperature.	Mean Height of Barometer.	Amount of Rain in Inches.
January	38.8	29.622	0.310
February	40.1	29.400	0.340
March	45.1	30.135	0.535
April	49.5	30.071	0.670
May	52.4	29.618	1.370
June	55.4	29.491	2.630
July	58.9	29.791	1.955
August	59.	30.002	1.385
September.....	56.7	30.001	0.430
October.....	49.6	29.705	1.110
November.....	41.7	29.185	2.020
December	50.2	29.801	1.485

The greatest degree of Heat, as indicated by the Thermometer, in the sun was 104°, on September 4th; and the greatest in the shade was 85°, on September 3rd; and the minimum 12°, on January 2nd.

The greatest Barometric pressure was on Sept. 11th, being 30.892 inches; the temperature of the Mercury being 64°. The least pressure was on January 7th, being 28.710 inches; temperature 52°.

The greatest fall of Rain was on the 16th June, being 0.990.

1855.	Mean Temperature.	Mean Height of Barometer.	Amount of Rain in Inches.
January	38.4	30.028	0.065
February	29.4	29.792	1.390
March	39.7	29.568	1.275
April	46.1	30.051	0.355
May	46.9	29.384	1.320
June	62.3	29.873	1.615
July	63.1	29.735	2.825
August	62.4	29.818	1.870
September	60.7	30.651	0.470
October	50.9	29.475	4.225
November	43.5	29.857	0.540
December	38.	29.845	0.540

The greatest degree of Heat, as indicated by the Thermometer, in the sun was 108°, on 6th and 12th July; and the greatest in the shade was 85°, on 26th May; and the minimum 9°, on February 15th.

The greatest Barometric pressure was on Sept. 15th, being 30.978 inches; the temperature of the Mercury being 61°. The least pressure was on 12th March, being 28.705 inches; temperature 49°.

The greatest fall of Rain was on the 29th October, being 0.850.

The Council greatly regret that they cannot yet report a successful termination of their endeavours to effect a union between this Society and the Leeds Library. They have ascertained, at the request of the Committee of the Library, that the Members and Subscribers of this Society are generally of opinion that the union is desirable, and willing to form it on reasonable terms. It is expected that the subject will be brought before the Subscribers to the Library at their Annual Meeting; and until then the negotiation between the two bodies cannot be considered as finally closed. But the Council are very sensible of the inconvenience and disadvantage resulting from the continuance of a suspense which has long delayed the active measures that might otherwise have been taken for strengthening and extending this Society; and they strongly recommend to the Society and their future Council to consider the negotiation terminated, unless the Library meeting in June next should bring it to a favourable result; and to adopt, as soon as practicable, such measures as may appear most calculated to increase the strength and efficiency of this Society as a separate Institution.

LEEDS PHILOSOPHICAL AND LITERARY SOCIETY.

ORDINARY ACCOUNT.

	£.	s.	d.
Receipts.			
To Balance in the hands of the Sub-Curator	1	16	1
Executors of the late George Baron, Esq.	100	0	0
Less Duty	10	6	6
Subscriptions of 72 Members at 42s. each.....	89	13	6
" of 43 Subscribers at 21s. each.....	151	4	0
Subscriptions and Deposit of 1 New Member	45	3	0
" of 14 New Subscribers	5	5	0
Arrears of Subscriptions received	14	14	0
Receipts at Mr. C. C. Clarke's Four Lectures.....	16	16	0
" at Dr. Halley's Lecture	2	11	0
Half Year's Rent of Geological Society in Arrear	1	6	0
Rent of Lecture Room.....	10	0	0
Sale of One Copy of Transactions	10	0	0
Sale of Guides to the Museum	7	7	0
Admissions to the Museum	0	3	0
Less Commission	0	2	6
Balance due to the Treasurer	31	5	10
	28	15	10
	13	14	0
	<u>£398</u>		8 11
Expenditures.			
By Balance due to the Treasurer	83	19	6½
Insurance	6	12	9
Gas	1	19	0
Coke	7	11	9
Coals (two years).....	19	18	1
Tradesmen's Bills	32	6	0
Printing and Advertising	16	3	0
Books and Stationery	7	3	6
Sub-Curator's Salary	120	0	0
Porter	31	12	0
Purchase, Carriage, and Preservation of Specimens.....	8	8	8
Water Rate and Main Sewer Rate	1	13	4
Expenses of Conversations	14	9	0
Less Receipts	4	12	6
Mr. C. C. Clarke for Four Lectures	21	0	0
Dr. Halley for One Lecture	5	5	0
Subscription to the Society of Arts	2	2	0
Sundry Expenses, Cleaning, &c.	15	14	1½
Postages	3	10	3
Interest and Commission to Banker	3	16	0
	<u>£398</u>		8 11

To Balance in hand £1 15 0
 To be received for Subscriptions, &c. 39 4 6
 Ditto from the West Riding Geological Society 10 0 0
 £50 19 6

DONATIONS AND ADDITIONS

TO THE

SOCIETY'S MUSEUM.

Those marked thus () are Honorary Members; thus (+) Members of this Society.*

MINERALOGY AND GEOLOGY.

- | | | |
|--|---|--------------------------------------|
| Magnificent Specimen of Native Copper, from the Queen of Dart Mine, Cornwall, weight, 2 cwt. 2 qrs. 13 lbs. | } | John Marshall, Esq., Horsforth Hall. |
| Several Teeth of the Shark, from the Suffolk Crag | } | Master C. D. Smith. |
| Specimens of Ferns, from the Burdiehouse Limestone | } | †J. R. Hubbard, Esq. |
| Fossil Wood from the Dirt-bed, Isle of Portland | } | Robert Arthington, Jun., Esq. |
| Tourmaline, from Bovey Tracey | } | |
| Carbonate of Lime | } | |
| Hepatic Iron Ore | } | The Yorkshire Naturalists' Club. |
| Cast of the Tibia of the Mammoth, found at Harswell | } | |

ZOOLOGY.

- | | | |
|--|---|------------------------|
| Fine Specimens of the Jer Falcon, and Iceland Falcon | } | †John Gott, Esq. |
| Specimen of the Hawk-headed Owl, and Pratincole | } | †J. G. Marshall, Esq. |
| Specimens of the Canada Goose, Little Gull, Grey Phalarope, Male of the Lesser Spotted Woodpecker | } | †George Noble, Esq. |
| Specimen of the Hobby..... | } | †John Calverley, Esq. |
| Specimen of the Red-breasted Merganser ... | } | †Arthur Marshall, Esq. |
| Male and Female of the Great Black and White Woodpecker, and Female of the Lesser Spotted Woodpecker | } | |
| Pair of the Yellow Wagtail | } | |

Pair of the Roller	} John Botterill, Esq.
Very Fine Pair of the Little Bustard	} †T. W. Tottie, Esq.
Specimen of the Honey Buzzard	} †Wm. Aldam, Esq.
Specimen of the Little Owl	} †George Walker, Esq.
Specimen of Scops-eared Owl	
Three Fine Specimens of <i>Lepidosteus Oxyurus</i>	} *Joseph Clark, Esq., Cincinnati.
Specimen of <i>Platirostra Edentula</i> , (Paddle Fish)	
Specimen of <i>Accipenser Platyrhynchus</i> (Shovel-nosed Sturgeon)	
One Hundred Species of Land and Fresh Water Shells, from America	
Magnificent Stuffed Specimen of the South African Lion	} †Thos. Nunneley, Esq., Curator.
Specimens of the Harvest Mouse	} †J. R. Hubbard, Esq.
Specimen of <i>Cassis Cornutus</i> , and Tooth of a Sperm Whale.....	} Robert Arthington, Jun., Esq.
Shell of a Tortoise.....	
Fine Skull of the Gnu, from South Africa, and Specimen of the Boa, from Port Natal	} *William Boyne.
Fine Specimen of the Brown Pelican	} †Messrs. J. and J. Hargrave.
Specimens of the Stormy Petrel and Honey-Eater, from Australia	} Mr. Joshua Hummerston.
Skeleton of the Chimpanzee, from Western Africa	} †T. W. George, †T. P. Teale, †William Gott, †John Wilson, †Darnton Lupton, †Joseph Holt, †J. D. Luccock, †Edw. Baines, †Frederick Baines, †William Hey, Esqs., and †Dr. Heaton.
Specimen of Mullers Top Knot	} †C. C. Oxley, Esq., of Redcar.

ANTIQUITIES AND MISCELLANEOUS OBJECTS.

Beautiful Marble Bust, with Pedestal, of the late Benjamin Gott, Esq., by Joseph Gott, of Rome	} †John and †William Gott, Esqs.
An Herbarium of 2,000 Specimens of British Plants.....	} Dr. W. F. Chorley, London.

Fine Specimen of the Double Cocoa Nut...	} Robert Arthington, Jun., Esq.
Trumpet Gourd and Calabash from Jamaica	
A Purse, from the South Sea Islands	
A Chinese Fan	
Roman Brick	
Fac-simile of the Magna Charta, and Translation of the same.....	} †J. H. Richardson, Esq.
A Wooden Chain, cut with a pocket-knife out of a single piece of wood	} Mr. G. Bell, High-street.
A Wooden Shovel, found in an old coal pit at Wortley	} Mr. Stubbins.
Iron Clasps, from the chest which contained the body of St. Cuthbert, A.D 876, in the vault of the Palace at Durham	
20 Copper Coins	} Mr. J. Balmforth.
Crown of Anne	} *William Boyne, Esq., London.
Half Crown of Commonwealth	
Half Crown (hammered) of Charles II.....	
Silver Penny of James II.	
Silver Twopence of William and Mary.....	
Silver Penny of William III.	
Silver Twopence of Anne	
Silver Threepence of George I.....	
Silver Fourpence of George II.	
Three French Assignats, one with the auto- graph of Carrier.....	} P. O'Callaghan, Esq.
Fac-simile of the Writ for the Execution of King Charles I.	

LIBRARY.

The Descriptive Catalogue of the London Tradesmen, Tavern, and Coffee House Tokens, in the Corporation Library, Guildhall, London	} The Library Committee, Guild- hall, London.
Proceedings of the Yorkshire Philosophical Society. Vol. 1., 1855	} The Yorkshire Philosophical Society.
Annual Report of the Yorkshire Philoso- phical Society, for 1854.....	
Minutes of the Committee of Council on Education, 1853-54	} The Society of Arts.

- Some Observations on an Ancient Talisman Brought from Syria, by John Lindsay, Esq. } The Author.
- Visit to Continental Reformatories, by Robert Hall, Esq., Recorder of Doncaster } The Author.
- Ofversigt af Kongl. Vetenskaps Akademiens, Forhandlingar, for 1854 } The Royal Academy of Stockholm.
- Twenty-third Report of the Scarbro' Philosophical and Archæological Society, 1854 } The Scarbro' Philosophical Society.
- Second Report of the Department of Science and Art } Her Majesty's Government.
- Smithsonian Contributions to Knowledge, vols. vi. and vii., 4to. }
 The Annular Eclipse of May 26th, 1854 ... }
 Seventh, Eighth, and Ninth Annual Reports of the Board of Regents of the Smithsonian Institute, for 1852, 1853, 1854 ... }
 List of Foreign Institutions in Correspondence with the Smithsonian Institution }
 Catalogue of Described Coleoptera of the United States, by Fred Ernest Melsheimer, M.D. } The Smithsonian Institution, Washington. U. S.
 The Natural History of the Red River of Louisiana, from the Report of Captain Marcy, R.N. }
 On the Serpents of New York, by Spencer F. Baird, M.D. }
 Reports of the Patent Office for 1853 and 1854, vol. iii., 8vo. }
 On the Construction of Catalogues of Libraries, and of a General Catalogue, by C. C. Jewett }
 Bibliographia Americana Historico Naturalis, for the Year 1851, by C. Girard, 8vo., Philadelphia } The Author, through the Smithsonian Institution.
 Researches upon Nemerteans and Planarians, by C. Girard, 4to. }
 Transactions of the American Philosophical Society, vol. x., pt. 2 } The American Philosophical Society.
 Proceedings of the American Philosophical Society, vol. v., pts. 49, 50, 51, 52

- Annals of the Observatory of Harvard } The Harvard College, U. S.
College, vol. i., pt. 2, 4to. }
- Ohio Agricultural Report, 8vo. } The Ohio Agricultural Society.
- Memoirs of the Manchester Literary and } The Manchester Literary and
Philosophical Society, vol. xii. } Philosophical Society.
- A Synopsis of the Classification of the }
British Palæozoic Rocks, by the Rev. }
A. Sedgwick, M.A., F.R.S., with a }
Systematic Description of the British }
Palæozoic Fossils in the Geological }
Museum of the University of Cambridge, }
by Frederick Mc Coy, F.R.S., 4to. } *The Rev. Professor Sedgwick,
M.A., F.R.S.
- The Natural History of Dee Side and } His Royal Highness, Prince
Braemar, by Dr. Macgillivray. Printed }
by Command of the Queen } Albert.
- Catalogue of the Kerrich Collection of }
Roman Coins Presented to the Society }
of Antiquaries } † W. S. Ayrton, Esq.
- Annual Report of the Royal Institution of } The Royal Institution of Corn-
Cornwall, for 1850, 1851, 1852, 1853, }
1854 } wall.
- First Report of her Majesty's Civil Service } Her Majesty's Government.
Commissioners }
- 36 Volumes of Reports and Public Docu- }
ments connected with the United States, }
consisting of,— }
United States Coast Survey, 1853, 4to., }
Exploration and Surveys from the Mississippi }
to the Pacific, 4to. }
Maps to Andrew's Report, 8vo. } †Francis Carbutt, Esq.
Presidents' Messages and Documents, 8vo., }
11 vols. }
Patent Office Reports, 8vo., 13 vols. }
Commerce and Navigation, 8vo., 4 vols. ... }
Finance Reports, 8vo., 3 vols. }
Exploration of Red River, and Maps, 8vo., }
2 vols. }

LIST OF OFFICERS, COUNCIL, AND MEMBERS.

OFFICERS.

President	John Hope Shaw.
Vice Presidents.....	{ Rev. William Sinclair, M.A. Wm. Scrope Ayrton, F.S.A.
Treasurer	William Williams Brown.
Secretaries	{ Wm. Sykes Ward, F.C.S. George Shaw.
Curator in Geology	J. G. Marshall, F.G.S.
„ in Zoology	T. P. Teale, F.L.S.
„ in Antiquities and Works of Art, &c.	Thomas Nunneley.
Sub-Curator	Henry Denny, A.L.S.

COUNCIL.

Rev. Alfred Barry, M.A.	J. D. Heaton, M.D.
William Blanshard.	Joshua Ingham Ikin.
Patrick O'Callaghan.	Christopher Kemplay.
Charles Chadwick, M.D.	Rev. H. R. Reynolds, B.A.
Christopher Empson.	George Pyemont Smith, M.D.

PROPRIETARY MEMBERS.

W. Aldam, <i>Frickley Hall, Doncaster.</i>	Thomas Charlesworth.
John William Atkinson.	Henry Chorley.
*John Atkinson.	Samuel Clapham.
Robert Arthington.	John Cudworth.
Edward Baines.	Thomas Townend Dibb.
James C. Battye.	William Beckett Denison.
William Beckett, M.P., (2 shares.)	Edwin Eddison.
Samuel Birchall.	Robert John Ellershaw.
Edwin Birchall.	John Ellershaw, Jun.
Richard Bramley.	*Rev. John Ely.
James Brown, <i>Rossington</i> , (2 shares.)	Christopher Empson.
*William Williams Brown.	Samuel Greame Fenton, <i>Belfast.</i>
John Burton.	Robert Lawson Ford.
John Calverley, <i>Oulton</i> , (2 shares.)	William Gatliff.
Newman Cash.	Thomas Willington George.

Sir George Goodman, M.P.

John Goodman.

John Gott, (4 shares.)

William Gott, (4 shares.)

William Hey.

John Deakin Heaton, M.D.

James Holdforth.

Joseph Holdsworth, *Wakefield.*

Joseph Holt.

John Jowitt.

John Jowitt, Jun.

William Glover Joy.

*James Leather.

John Darnton Luccock.

Darnton Lupton.

Arthur Lupton.

Francis Lupton.

Charles Makins.

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* Members deceased, whose shares have not been transferred.

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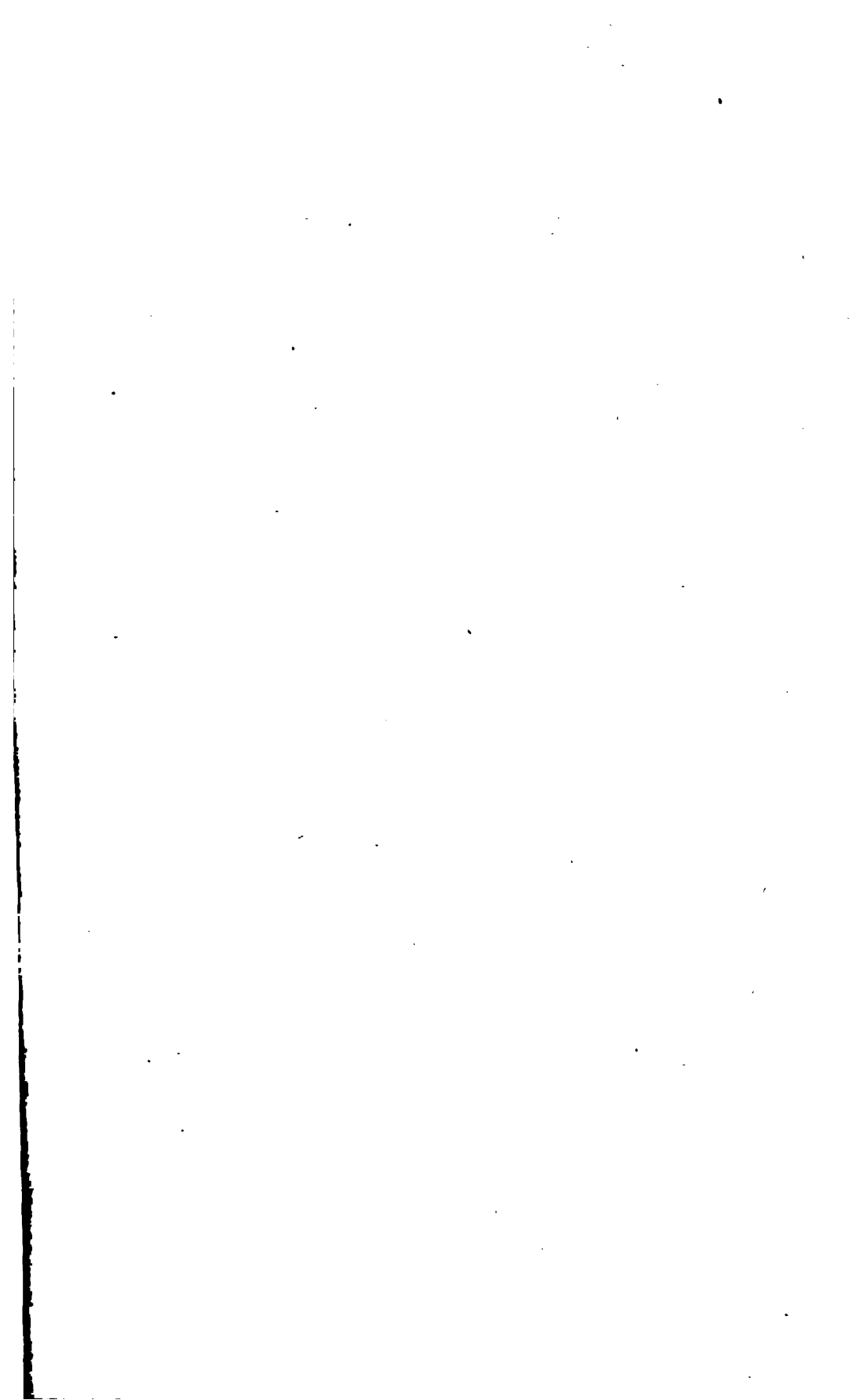
Frederick Hall.
 Miss Hallewell.
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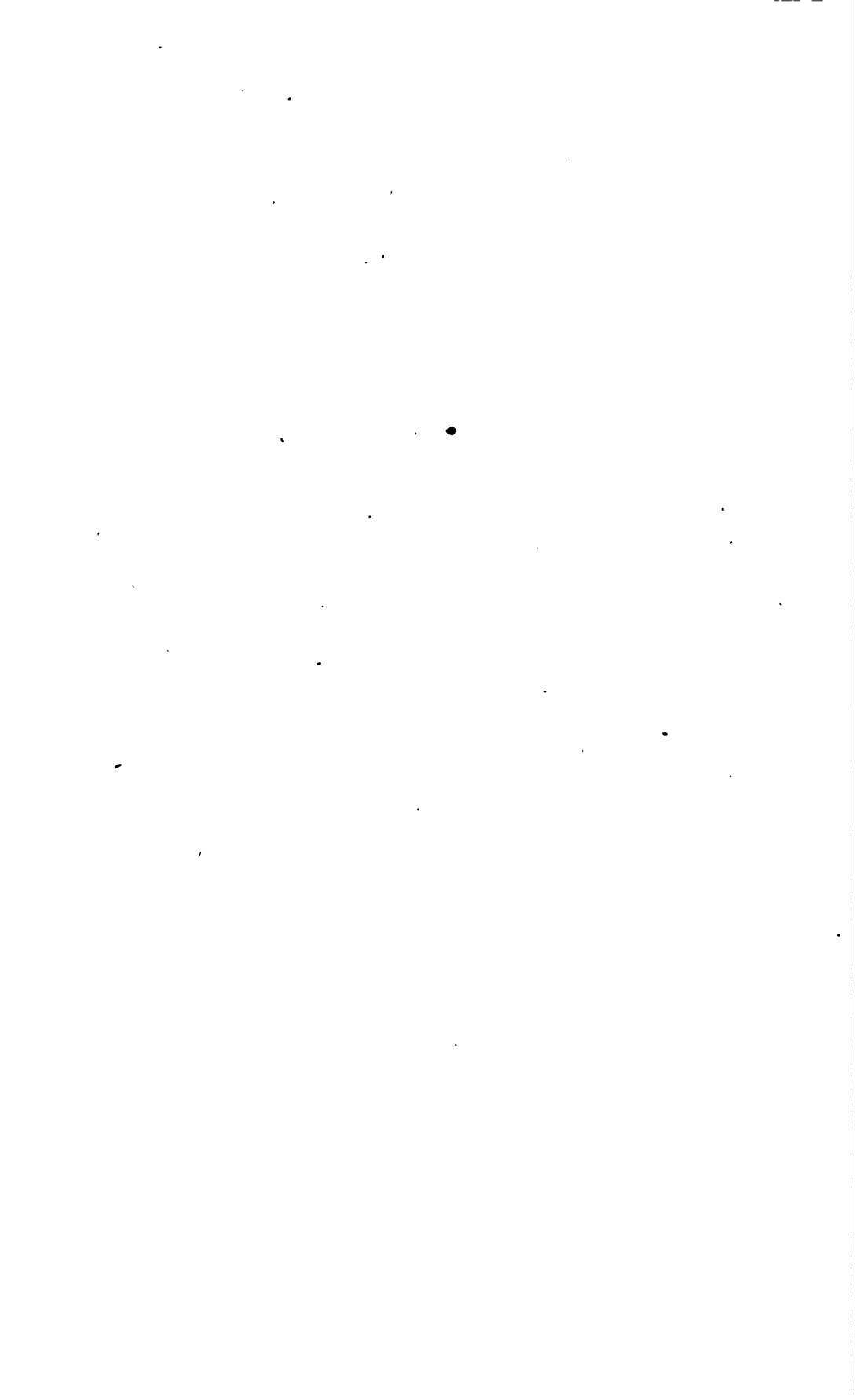
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- James De Carle Sowerby, F.L.S., &c., *London.*
- John Spear, *London.*
- Rev. William Thorp, A.M., *Misson-Vicarage, Bawtry.*
- Thos. Stewart Trail, M.D., F.R.S., Professor of Medical Jurisprudence in the University of Edinburgh.
- John K. Walker, M.D., *Deanshead, Halifax.*
- Charles Waterton, Honorary Member of the Yorkshire Philosophical Society, and British Institution, *Walton Hall.*





The Soc. of Nat. Hist.
Recd. May/58

LEEDS
PHILOSOPHICAL & LITERARY SOCIETY.

THE ANNUAL REPORT
FOR 1856-7.



Seal

Boston Society of Natural History.

From

Received

THIRTY-SEVENTH REPORT
OF
THE COUNCIL
OF THE
LEEDS
PHILOSOPHICAL & LITERARY
SOCIETY,

AT THE CLOSE OF THE SESSION,

1856-7.

LEEDS:
PRINTED BY EDWARD BAINES AND SONS.
MDCCLVII.

FORM OF A BEQUEST TO THE SOCIETY.

Every person desirous of bequeathing to the Society any Sum of Money, Specimens, Books, Instruments, or other Property, is requested to make use of the following Form:—

I give and bequeath to the Trustees for the time being, of the Society established at Leeds, called "THE LEEDS PHILOSOPHICAL AND LITERARY SOCIETY," for the use of the said Society, the sum of _____ to be paid out of such part of my Personal Estate as I may legally charge therewith. [Or here enumerate the effects or property intended to be bequeathed.] And I direct that the Receipt of the Treasurer of the said Society for the time being, shall be an effectual discharge to my Executors for the said legacy.

REPORT OF THE COUNCIL,

AT THE CLOSE OF THE

THIRTY-SEVENTH SESSION.

THE return of another Anniversary, which brings to a close the Thirty-seventh Session of the Leeds Philosophical and Literary Society, imposes upon the Council the duty of reporting the proceedings of the past year. The Ordinary Meetings have been well attended, and on several occasions the Papers have attracted large audiences.

The following is a list of the Papers read during the Session :—

1. "On the English Parliament, from the Reign of Edward First to the Revolution of 1688"—by John Hope Shaw, Esq., the *President*—(Read Oct. 21st, 1856.)
2. "On the Jacobite and Lowland Poetry of the 18th Century"—by the Rev. Wm. Sinclair, M.A., *Vice-President*—(Read Nov. 4th, 1856.)
3. "On the Life and Times of Frederick the Great"—by the Rev. C. E. Moberley, M.A.—(Read Nov. 18th, 1856.)
4. The *Conversazione*—(Dec. 2nd, 1856.)
5. "On Autographs—their Collection, and Connection with History"—by P. O'Callaghan, Esq.—(Read Dec. 23rd, 1856.)

6. "On the Encrinite and its Kindred"—by the Rev. Thomas Hincks, B.A.—(Read Jan. 6th, 1857.)
7. "On the Epigrams and Epigrammatic Writings of the beginning of the 18th Century"—by Wm. Osburn, Esq., M.R.L.S.—(Read Jan. 20th, 1857.)
8. "On the Life and Character of Queen Elizabeth"—by the Rev. Dr. Hook—(Read Feb. 3rd, 1857.)
9. "On Music"—by Sir Henry E. L. Dryden, Bart.—(Read Feb. 17th, 1857.)
10. "On Plato"—by the Rev. W. Whewell, D.D., Master of Trinity College, Cambridge—(Read March 3rd, 1857.)
11. "On the Life and Times of Charlemagne"—by the Rev. A. Barry, M.A.—(Read March 17th, 1857.)
12. "On Homer"—by the Rev. James T. B. Landon, M.A.—(Read April 21st, 1857.)
13. The Photographic Conversazione—(April 28th, 1857.)

While the Council point out, with high satisfaction, that the list includes the names of several of our most distinguished townsmen, they are sure none will concur more heartily than those gentlemen in a special acknowledgment of the honour conferred on the Society by the visit and Lecture of the Rev. W. Whewell, D.D., F.R.S., Master of Trinity College, Cambridge. The Lecture was received with marked interest and gratification by one of the largest audiences of the Session; and the Council are sure that their successors will confer a great benefit on the Society, if they should prevail upon Dr. Whewell to repeat his visit. At the conclusion of the Paper, Dr. Whewell was unanimously elected an Honorary Member.

In the early part of the Session, Dr. Sandwith, C.B., late Inspector-General of the Medical Department of the

Turkish Army at Kars, favoured the Members and Friends of the Society and of the Leeds Library with a highly interesting Lecture, "On the late Campaign in Asia Minor, with special reference to the Siege of Kars." The Music Hall was engaged by the two Societies jointly, and the spacious Saloon was filled to overflowing. The Lecturer was enthusiastically received, and his thrilling description of the anxieties and privations he and his brave companions in arms had to endure, was listened to with intense interest.

In November last, Mr. Waterhouse Hawkins, F.G.S., &c., delivered two Lectures on the "Dinosaurians of Great Britain, and the Pachyderms and Megatheroids of the Tertiary Periods." The Lectures were illustrated by restored life-sized Diagrams of several of these gigantic inhabitants of a former world, executed with that artistic freedom for which Mr. Hawkins is justly celebrated.

The Juvenile Lectures were delivered, as usual, during the Christmas vacation. The course consisted of three Lectures, the subjects being, "Chemistry, and the Phenomena of Light and Colour," in two Lectures by Mr. W. S. Ward; and one Lecture, "On the Habits and Habitations of the Spider Family," by Mr. Denny.

The Annual *Conversazione* was held in December last, in the rooms of the Society. It was numerously attended, and in the interest of its proceedings, and the variety and beauty of the objects exhibited, it has not been surpassed by any of its predecessors. Among the Paintings, Draw-

ings, Photographs, Sculpture, and other works of art, an interesting collection of Autographs and Holographs of celebrated Poets of various ages and countries, contributed by Mr. O'Callaghan, attracted considerable and well-merited attention. At intervals during the evening, short Papers were read:—by Mr. E. Baines, a Paper entitled “An Alpine Panorama—Monte Rosa and the Matterhorn,” illustrated by a large Diagram prepared for the occasion; a Paper, by the Rev. F. W. Chapman, being “An account of the Manners, Habits, and Religion of the Natives of New Zealand, from personal observation;” a Paper, by the Rev. Thos. Hincks, entitled, “The Paper Nautilus, and its Story;” and a Paper “On a novel application of Amorphous Phosphorus,” by Mr. Reynolds.

The Council deeply regret the heavy loss sustained by the Society in the removal from Leeds of the Rev. Wm. Sinclair, one of its Vice-Presidents. Mr. Sinclair held the office of President during six successive years; and not only during that period in particular, but during his whole connection with the Society, took an active part in its proceedings, and essentially promoted its welfare. On the evening of his farewell visit to the Hall, when he read a Lecture “On the early Poetry of Scotland,” he was unanimously elected an Honorary Member of the Society.

From the increasing interest which is evinced to investigate the historical relics of past ages, and the various societies formed in different parts of the kingdom to promote the study of Archæology, the Council have been

anxious to enter into a mutual correspondence with several Associations, in order that their labours might be made available to the Members of this Society; and they are happy to report that the transactions of some of these have been received, with a promise to contribute their future publications. Similar communications are shortly expected from others.

In connection with this subject, the Council have much pleasure in referring to the beautiful photographs of ancient crosses at Ilkley and Collingham, for which the Society is indebted to Mr. T. W. Stansfeld, who proposes to extend these useful labours to other similar monuments in the neighbourhood. They would also refer to the fragments of ancient Crosses, and a drawing of one of the most perfect of those discovered in pulling down the Old Parish Church in Leeds, presented by Mr. Chantrell, of London.

The Council have the pleasure of acknowledging the following Donations and additions to the Museum during the Session. In the Geological department, a fine specimen of Star-fish (*Asterias*) in Sandstone, from Mr. Nunneley, one of the Curators; the specimens of Crustacea, from the Lower-tertiary formations of Verona, from the Rev. C. Wicksteed; and the Skull of a large species of Dog, from the Gravel of Norwich, presented by Mr. O'Callaghan.

To the collection of Fish has been added, by purchase, a specimen of the Short Sun-fish, which has long been a

desideratum; and the collection of British Birds has received an addition of 16 specimens, from Mr. Ingham.

The principal additions made to the Numismatic and Antiquarian Departments consist of the liberal contributions from the Right Honourable Lord Londesborough, of a portion of the hoard of Roman small Brass Coins, found near Warter, in the East Riding, amounting to 273 specimens, and embracing various types of Gallienus, Salonina, Tetricis, Tetricis, jun., Victorinus, and Claudius Gothicus; a Pair of Shoes worn by Archbishop Whitgift, from Croydon Abbey; and an Ancient Powder Flask, found in the possession of Garven, who was executed in the reign of Charles II. for high treason: his Lordship has been unanimously elected an Honorary Member of this Society. Also, a Fac-simile of the Warrant for the Execution of the unfortunate Mary, Queen of Scots, the original of which is deposited in the British Museum; presented by Mr. O'Callaghan.

During the Session, a handsome white marble pedestal, for the Bust of the late John Marshall, Esq., to correspond with that of the late Benjamin Gott, Esq., has been presented by J. G., H. C., and A. Marshall, Esqs., and niches have been prepared in the Lecture Room in which the Busts and Pedestals of those munificent founders and benefactors of the Society have been placed.

A Bust of the late venerable William Hey, F.R.S., who presided at the first meeting, in December, 1818, at which

this Society was constituted, has been presented to the Society by William Hey, Esq.

With reference to the Museum, the Council have again to regret that great want of space in various departments, which prevents the proper display of the numerous specimens now accumulated within its walls.

On a review of the Collections in the possession of the Society, deficiencies appear which the Council feel anxious should be supplied. In the British Invertebrate Animals, for instance, it is very desirable that a series of wet preparations of the species should be obtained, by which means, many of the peculiarities of structure would be preserved for examination, which in dried specimens are lost.

Many of the Marine tribes, as the Crustacea, Zoophytes, Annelides, &c., may be procured with little trouble by the Members of the Society, or their friends, from various parts of the coast during the summer months. These should be transmitted while fresh, or preserved in spirit; the latter mode being the most effective, and giving the least trouble to the collector.

The series of Land and Fresh-water Shells of the British Isles is also very defective, and wholly inadequate to afford that information to the student in Conchology which such collections are intended to impart. These deficiencies the Council trust will soon be supplied, as many members of the Society may have it in their power to contribute towards that object.

The Museum has been visited during the Session by 7,650 persons, who have purchased tickets, besides those introduced by Members, being an increase in the number of the visitors over those of the last two years. The amount received, after deducting the commission, is £29 6s. 6d.

The continued and steady increase of the Library is highly satisfactory, but much inconvenience is felt from the want of more space for the Books. Amongst the most recent and important acquisitions, may be enumerated His Grace the Duke of Northumberland's handsome present of the Descriptive Catalogue of Roman Family Coins, belonging to his Grace, by Rear-Admiral W. H. Smyth, printed for private circulation; the elaborately illustrated Catalogue of Antiquities, in the possession of Lord Londesborough, *Miscellanea Graphica*, presented by the Right Honourable Lord Londesborough; the splendid volume on Saxon Obsequies, by the Honourable R. C. Neville, presented by Mr. Wm. Watson; the transactions of the Kilkenny and South-east of Ireland Archæological Society; the proceedings of the Sussex Archæological Society; the transactions of the Historic Society of Lancashire and Cheshire; and the proceedings of the Ashmolean Society of Oxford.

From Her Majesty's Government have been received several valuable Publications connected with the School of Mines and Museum of Practical Geology. The Royal Society of Edinburgh; the Geological, Zoological, and

Chemical Societies of London; the Royal Institution of Great Britain; the Smithsonian Institution of Washington; and several Provincial Societies, have contributed their Reports and Publications.

The Council have pleasure in reporting an increase in the number of the Members and Subscribers of the Society,—two of the former and seventeen of the latter have been elected; but as eight Subscribers have been lost, from change of residence and other causes, the real addition of the latter is nine.

In consequence of some unusual items of expenditure during the past year, viz., the painting of the Lecture-room and Hall, and repairs, &c., the amount due to the Treasurer is necessarily rather increased; nevertheless the balance due from the Society will be entirely liquidated when the arrears due to it are paid up.

The literary proceedings of the Session were terminated by a Soirée, given by the Photographic section of the Society. An extensive collection of Photographs,—by amateurs, principally residents of Leeds, and foreign artists,—was exhibited, many of which were of great delicacy and distinctness. The chair was taken by Mr. S. Smith, President of the Section, who delivered a short introductory address. Mr. W. S. Ward read a Paper “On the Elements of Photographic Criticism;” the concluding Paper being read by Mr. Thompson, of Otley, “On the Oxymel Process.” The Meeting was well attended, and the Council would express a hope that their successors

will induce this Section of the Society to give one or more of these agreeable re-unions during the ensuing Session.

From the Meteorological Register the following abstract is derived, to exhibit the monthly averages for the past year :—

1866.	Mean Temperature.	Mean Height of Barometer.	Amount of Rain in Inches.
January.....	39.3	29.471	2.535
February	42.7	29.868	1.350
March	40.9	30.146	0.290
April	46.3	29.623	2.105
May	49.2	29.672	3.653
June	57.0	29.856	1.790
July	62.6	30.759	1.587
August	62.4	29.752	3.950
September	54.6	29.645	2.690
October.....	51.6	30.003	1.715
November.....	42.0	29.591	0.520
December.....	41.7	29.597	2.025

The greatest degree of Heat, as indicated by the Thermometer, in the Sun was 111°, on the 7th August; greatest in the shade, 90°, on 3rd of September; the minimum, 12°, on the 6th December.

The greatest Barometric pressure was on 1st of March, being 30.660 inches; the temperature of the Mercury being 56°. The least pressure was on 24th January, being 28.620; temperature of Mercury 56°.

The greatest fall of rain was on the 9th of August, being 1.895.

The negotiations for union between the Society and the Library are not closed, and the Council cannot but regard the delay as a serious evil. On the other hand, they have felt that undue precipitancy might endanger a measure of great importance, which requires for its full accomplishment, not merely a majority of votes, but the general and hearty concurrence of the Members of both Institutions; and that the evil of delay might be overbalanced by its advantage, if it tended (as they believe it has done) to remove misconceptions, and conciliate support. The terms of union suggested by a joint Committee, formed by Deputations from both bodies, were approved at an Extraordinary General Meeting of the Society, on 10th January last, and the Council were then authorized to take the necessary measures, on the part of the Society, for effecting the union. It appeared to be desirable that, before any further steps towards the union were taken, full information should be collected and laid before both Societies, in an authentic form, as to the position and requirements of each, and as to the means which the united body would possess of accomplishing all its various objects. The Council and Library Committee each appointed a Deputation from its own Members to form a joint Sub-Committee of Inquiry for this purpose; and that Sub-Committee, after careful investigation of details, and ample discussion, (conducted on both sides in the most candid and friendly spirit) agreed to the sub-joined Report, which the Council has since approved and

adopted. In this state the matter rests till the two Societies have had an opportunity of considering the Report, and expressing their opinions. The Council, in the meantime, beg leave to request the attention of the Members of both bodies to this authentic statement of facts, which appears to them to afford strong proof that the union would be highly advantageous, both to the Members of the two Societies, and to the town and neighbourhood.

REPORT OF THE SUB-COMMITTEE

APPOINTED BY THE COUNCIL OF THE PHILOSOPHICAL AND LITERARY SOCIETY, AT LEEDS, AND BY THE COMMITTEE OF THE LEEDS LIBRARY, TO CONSIDER AND REPORT ON THE POSITION AND REQUIREMENTS OF BOTH SOCIETIES AND ON THE REQUISITES FOR A BENEFICIAL UNION BETWEEN THEM.

MEMBERS.

Messrs. JOHN HOPE SHAW, THOMAS NUNNELLY, WM. SYKES WARD,	} Deputed by the Council of the Philosophical and Literary Society.	
THOMAS WILSON, ROBERT FROST, HENRY CHAS. TURKINGTON,		} Deputed by the Committee of the Leeds Library.

After various meetings and full enquiry and consideration, the Sub-Committee have agreed to the following Report :—

If the proposed Union of the two Societies should be agreed to—the choice of a Site—the purposes which the United Institution should provide for—and the extent and arrangement of the Building which would be required, will of course be referred to a Committee chosen for the purpose, and fairly representing both interests. With the decision of that body on any of those points, the present Committee have no wish to interfere. Their duty is simply to show whether the scheme of Union which has received the sanction of the Committees of both Societies is practicable in the way and on the terms proposed; whether the means at the disposal of the United

body would be adequate for providing a suitable building and for its permanent support; and whether the Union would increase or diminish the advantages at present enjoyed by the members of either Society. The information collected by the Committee for this purpose may not be without value hereafter in settling the details of the United Institutions, if the Union should be decided on. With both these objects in view, it appeared desirable to ascertain

1. The extent of land belonging to the two Societies;
2. The amount of accommodation at present enjoyed by them;
3. Their existing Income and Expenditure.

When these points have been ascertained, and not till then, some idea may be safely formed of

4. The extent of Land and Buildings required by the United Institution, and the requisite Funds both for the Erection of Buildings, and for Annual Expenditure.

They find from the Reports of Mr. Denny and Mr. Harrison, the chief Officers of the two Societies, that the land belonging to the Philosophical and Literary Society consists of 853 yards, and that to the Library of 766 yards, making a total of 1,619 yards.

		Yds.
I.	1. But of the Philosophical Society's Estate the Streets and Area occupy.....	334
	And the yard and premises let along with the Cellars.....	61
		395
	Leaving an Area, actually used for the Museum and Curator's House of	(853—395) 458
		Yds.
	2. So of the Library Estate, the Street occupies	198
	And the Yard and Printing-office.....	227
		425
	Leaving for the Library itself (766—425) or ..	341
	Consequently, the land used by the two Institutions, as they now exist, is only	799
II.	1. The accommodation provided in the Philosophical Hall, besides Cellars under the whole building, are, on the Ground Floor—	
		Feet. Yards.
	An Entrance Hall	22 + 16 = 39
	Library	12½ + 14½ = 32
	Ante Room	15½ + 14½ = 32
	Lecture Hall (capable of seating 300 persons)	44 + 31½ = 164
	Laboratory	24 + 13 = 34
	On the Upper Floor—	
		Feet of Wall
	Curator's Room	24 + 13 = 34
	1st Geological Room	49 + 15½ = 85
	2nd ditto	24½ + 20 = 54
	Zoological Room	42 + 31 = 148
		Space. 1331
		2280
	Total....	612
		6084

In the centre of the Zoological Room are Tables giving 295 feet of space, and in the Geological Room two Tables occupying 88 feet, and two Cases 100 feet.

The Museum of the Philosophical and Literary Society is equal, if not superior, to that of any other Provincial Institution. The Geological Collection comprises about 7,000 specimens. Some of these are unique; many of great value; and every formation is represented by some of its characteristic fossils. The Mineralogical Series extends to 1,300 Specimens, and includes examples of most of the Metalliferous and Earthy Compounds. The Zoological Collection 6,000 in number, includes Quadrupeds, Birds, Reptiles, Fishes, Zoophytes, Mollusca, Insecta, Crustacea, and other Invertebrated Animals. The Museum also contains other objects of great value and interest, amongst which should be especially mentioned a Mummy, the most remarkable in the Kingdom, and only inferior to that which is the pride of the Museum at Turin; besides a small collection of Manufacturing Products, and of Domestic and Warlike Instruments of Foreign Nations, each of which would probably form the nucleus of a large collection, receiving continual accessions by private donations, if there were adequate space for their display. The Society's Library consists of about 1,200 volumes on Natural History and Numismatics, some of them are of great cost; and it has a most valuable Series of Coins and Medals, the recent gift of Mr. Baron.

2. The Ground Floor of the Library Building is at present occupied by Shops, which produce a considerable rental; the Books being placed on the upper floor in one principal and three smaller rooms, the dimensions of which are

	Yards.		Feet.	
The large Room..	60 + 30 =	200	yards,	giving 353 of available wall space.
1 smaller Room ..	19 + 18 =	38	"	"
2 " "	19 + 18 =	38	"	"
3 " "	17 + 14 =	24	"	"
			100	"
			534	

It is found that one square yard of wall space holds about 30 folios, 40 quartos, 90 octavos, or 120 duodecimos, and that the accessions to the Library during the last three years have been

	Folios.	Quartos.	Octavos.	12mos.
In Books	23	48	253	336
In Periodicals	12	18	220	30
	35	66	473	366

And the space filled has been... $1\frac{1}{2}$ $1\frac{1}{2}$ $5\frac{1}{2}$ $3\frac{1}{2}$ = $11\frac{1}{2}$ yards.
or not quite four yards in one year.

III. Annexed to this Report will be found a Tabular Statement of the Finances of the two Institutions for the ten years from 1847 to 1856, showing the principal heads of Income and Expenditure, with the average both for the whole ten years, and also for the first and second periods of

five years. After a careful consideration of these Tables, your Committee are of opinion, that the average of the last five years, with some alterations which they proceed to explain, will form a fair Statement of the Income and Expenditure of the two Societies as they now stand. By a resolution of the Subscribers to the Library last year the Subscription was raised from 21s. to 25s., and this added about £100 to its Income. On the other hand, the salaries, which on the average of the five years were only £147, now stand at £222. The present Library Income will, therefore, stand at £100, and its Expenditure at £55, more than the average.

It is no doubt true that the Library Committee have, during the last five years, laid out about £400 in lighting and warming the Premises, and in other Improvements, which outlay, distributed over the whole period, increases the average by about £80 a year. But as, although this specific outlay may not soon recur, it involves some increase to the annual Expenditure, and as an expense of corresponding amount may fairly be anticipated in some other department, (*e. g.*, in providing new cases and shelving, &c.) it does not seem safe to make any deduction from the average expenses on this account.

It is only necessary, in further explanation of the subjoined Table, to state that the first line shows the gross Annual Income and Expenditure of the two Societies, on an average of the last five years; the second line the Extraordinary Receipts and Payments on account of the Debt, which are altogether exceptional, and comprise in the case of the Philosophical Society one-fifth of Mr. Baron's bequest of £100 (minus legacy duty), and in the case of the Library one-fifth of the sum realised by the issue of new shares; and that the third line exhibits the past nett average of Income and Expenditure; this amount must be added to the sums of £100 and £55 for the increase in the Library Subscriptions and Salaries, as explained above, and the result will be a fair Statement of the present *average* Income and Expenditure of the two Institutions.

	INCOME.						EXPENDITURE.											
	Hall.		Library.		Both.		Hall.		Library.		Both.							
	£.	s.	d.	£.	s.	d.	£.	s.	d.	£.	s.	d.						
Gross Average.....	354	14	0	831	19	0	1186	13	0	371	9	7	914	6	4	1285	15	11
Deductions on account of the Debt	17	18	8	89	8	9	107	7	5	...			137	13	0	137	13	0
Past Nett Average.....	336	15		4742	10	3	1079	5	7	371	9	7	776	13	4	1148	2	11
Additions			100	0	0	100	0	0	...			55	0	0	55	0	0
Present Nett Average..	336	15		4842	10	3	1179	5	7	371	9	7	831	13	4	1203	2	11

Or, in round numbers, it may be said that the Average Income of the two Societies is £1,180, and their Average Expenditure £1,200 per annum.

IV. In forming an estimate of the extent of accommodation required by the proposed Institution, the present condition of the two separate Societies must not be overlooked. From the testimony of the officers of both, it appears that

there is an actual deficiency of accommodation in the case of the Hall, and that additional space will soon be required for the Library. In the Hall, indeed, the specimens are very inconveniently crowded; and in the departments of Mineralogy, Geology, and Comparative Anatomy, many are not displayed for want of space. For the same reason the very valuable series of Coins and Medals cannot be exposed to public view. To the existing Collections, even in the branches which are most rich, it is desirable that from time to time additions should be made, so that they may adequately illustrate the contemporaneous state of knowledge; and there are other objects of great interest which might with advantage be added, and which are either not at all, or very imperfectly represented in the present Museum. Two of these may especially be mentioned as so important in themselves, and attracting so much of public attention, that a town like Leeds cannot long neglect them,—a Gallery of Art, and a Museum of the Manufacturing Industry of the neighbourhood. There can be no doubt that if these are to be formed, it is most desirable they should be united in one Institution, and the Committee believe that if suitable accommodation were provided, the liberality of their townsmen would here, as elsewhere, supply the Collections.

But without speculating on these or other extensions, which might either immediately, or at no distant period, be undertaken, the Committee are satisfied that for the due display and convenient use of the collections now existing, and such as a few years' accumulation would produce, both in the Hall and the Library, the present accommodation must be nearly doubled.

Several sites for the new Building have been recommended; amongst which are,—

- The present Court-house;
- Two plots of land in Cookridge Street;
- A plot of land in South Parade.
- Do. near the New Town Hall.

It is not the province of the Committee to decide on the site; but they may be permitted to state some reasons which appear to them to weigh strongly in favour of another situation. There would be an obvious advantage in retaining one of the present buildings, as it would considerably reduce the amount to be expended; but it is clear that no land could be acquired adjoining the Philosophical Hall, except at an enormous expense. It is fortunate, therefore, that the ground between the Library Estate and Albion Place is vacant, and that there is every reason to believe, from inquiries that have been made, that it might be obtained for the proposed object on moderate terms. There is an additional recommendation of this site in its proximity to the Stock Exchange Hall, which would be obtainable for Conversaciones, Soirées, or any large meetings, and might be connected with the upper floor of the proposed Institution by a temporary covered way. If, in process of time, still more accommodation should be called for, the ground

between the present Library and Lands Lane affords the means of farther extension.

It appeared to the Committee that this land, together with the unappropriated portion of the Library Estate, would afford ample space for all the purposes of the proposed Institution, and that the purchase of it, together with the erection of a Building worthy of its object, might be accomplished with the funds at the disposal of the United Societies. But, in a matter of so much importance, they did not think it right to rely on their own unassisted judgment, and therefore they gladly availed themselves of the offered assistance of the Borough Surveyor. To his kindness they are indebted for a plan and estimate, which show beyond doubt that there is ample space for all the contemplated objects, and that the cost, including the ground, would probably not exceed £8,500.

It remains for the Committee to show that, according to the terms of the proposed Union, funds both for the Erection of a Building and for the Annual Expenditure would be at the disposal of the new Society.

It is proposed that the Union shall not take place until three hundred new shares of £10 each shall have been subscribed for. This will give a sum of £3,000, which, with £5,770, the produce of the sale of the Philosophical Hall, according to the estimate of an experienced builder, will raise £8,700 for purchase of Ground and cost of Building.

The Income of the New Institution would be as follows:—

800 Subscriptions at 30s.	£1,200
Rents	220
Ladies' Tickets, Fines, Lectures, Admission to Museum	say 100
	—————£1,520

Giving a surplus over the present Annual Expenditure (already shewn to be £1,200), of not less than £320; the whole of which surplus would be available for an additional outlay on Books, and the cost of extra Lectures and additions to the Museum. It will be observed that, in making this estimate, the New Subscribers have been reckoned at the minimum number of 300; but there can be no doubt that the increase of the town and the great attractions afforded by the Institution, would soon bring a large accession of New Members, and along with them the means of additional advantages and attractions in each of its departments.

If the value of the Union were to be tested solely by its immediate advantages to the present Members of each body, they would be found very considerable. The Members of the Philosophical and Literary Society would obtain the use of a large and valuable Library, at a nominal sacrifice to the holders of Proprietary Shares, and to the ordinary Members by a small bonus, counterbalanced by a diminished annual subscription. The Members of the Library would obtain a great annual increase of their stock of Books, and

access to the Museum, Meetings, and Lectures, now limited to the Philosophical Hall, at the cost of an addition of five shillings per annum to their present subscription, and with a power to extend those privileges to any member of their Families by a small annual payment.

But this, though one, is by no means the only test by which the question should be judged. Another and a better test is to inquire whether the objects of the two Institutions will be best promoted by their separation or by their union. It is clear that, for the promotion of those objects, both Societies require considerably extended accommodation; and almost, if not quite, equally clear that in their separate state, neither of them can obtain such an increase of members as will enable it to provide that extension without involving itself in a debt, which would cripple its operations for years to come. But if the two societies were united into one vigorous Institution, the energy of its combined operations, and the great and varied attractions it would command, might be reasonably expected to secure such an accession of Members, both now and hereafter, as would enable it not only to provide for present wants, but to keep pace with the growing requirements of the town.

JNO. HOPE SHAW,

Chairman of the Sub-Committee.

Leeds, 15th May, 1857.

ICAL

INCOME.

TOTAL.			
£.	s.	d.	
802	13	0	
	12	6	
	16	0	
	0	7	
239	1	0	
820	13	0	
1891	0	6	

Average of

HALL.		LIBRA	
s.	d.	£.	
17	8	522	1
16	1		
14	3	18	
10	3		
15	5	214	
0	8	44	
14	4	799	

ENDITUI

TOTAL.			
£.	s.	d.	
97	11	6	
20	12	4	
26	16	11	
108	1	3	
245	10	0	
468	12	6	
836	7	0	
52	10	0	
	9	6	11
	5	8	9
1870	17	2	

Ten Ye

HALL.		LIBRA	
£.	s.	d.	
51	14	5	1
8	8	4	
15	15	3	
55	14	2	
48	4	9	1
10	17	4	3
68	5	8	1
59	4	0	
14	0	1	
9	7	8	
36	11	8	6

LEEDS PHILOSOPHICAL AND LITERARY SOCIETY.

ORDINARY ACCOUNT.

	£.	s.	d.
Receipts.			
To Balance in hands of Sub-Curator			15 0 0
Subscription of 76 Members, at £1s. each	150	12	0
52 Subscribers, at 21s. each	24	12	0
Subscription and Deposit of 2 New Members	10	10	0
17 New Subscribers	17	17	0
Arrears of Subscriptions received	16	15	0
Cash received at Mr. Hawkins's Lectures	0	13	0
Half-year's rent of Geological Society, in arrear	10	0	0
Rent of Lecture-room	3	5	0
Sale of Guides to the Museum	31	17	6
Admission to the Museum	2	11	0
Less Commission	3	11	0
Balance due to Treasurer	29	6	6
	39	16	6
Disbursements.			
By Balance due to the Treasurer			13 14 0
Insurance			9 8 4
Gas and Coke			7 11 7
Coal			10 8 6
Tradesmen's Bills:—			
Excise of the late Wm. Hope, Painter	8	0	9
Messrs. Hope, Painters	2	19	0
M. & J. Benton, Joiners	12	12	0
Nelson & Sons, Smiths, &c.	7	13	0
Thos. Hall, Plumber	14	15	0
Longley, Builder	3	10	0
Broadhead & Son	1	12	0
Dentby & Co.	0	17	10½
Jackson & Co.	4	5	8
Printing and Advertising:—			
Messrs. Baines	1	6	6
C. Kemplay	2	10	0
Heaton & Son	11	8	9
Books and Stationery:—			
J. Cross	2	13	11
Heaton & Son	3	15	9
Snares's Zoology	0	13	0
Sub-Curator's Salary			7 1 8
Porter			120 0 0
Purchase, Carriage, and Preservation of Specimens			31 12 0
Water Rate, 20s.; Main Sewer Rate, 8s. 4d.			3 7 8
Expenses of Conversations			1 8 4
Loss Receipts	15	4	2
Expense of Photographic Conversations			
Mr. Waterhouse Hawkins, for two Lectures	3	0	0
Expense of Dr. Sandwith's Lecture	6	4	0
Subscription to the Society of Arts	2	3	0
Tea, Coffee, &c., for General Meetings	5	11	0½
Postage and Receipt Stamps	4	12	10
Sundry expenses, Cleaning, &c., &c.	18	0	8
Interest and Commission to Banker	2	17	0
Balance in hands of Sub-Curator	18	13	2
	£303	7	6

DONATIONS & ADDITIONS TO THE SOCIETY'S MUSEUM.

Those marked thus () are Honorary Members; thus (†) Members of this Society.*

GEOLOGY AND MINERALOGY.

Specimen of Fossil Fish, from the middle of the Lebanon range; and an Echinus, from the Mokattam Hills, near Cairo	}	†J. W. Atkinson, Esq.
Very fine Specimen of Asterias, from Sandstone near Pickering	}	†Thos. Nunneley, Esq., Curator.
Specimens of Fish, Crab, and Prawn; and an aggregation of Helices, from the Tertiary formation at Verona ...	}	The Rev. C. Wicksteed.
Several Geological Specimens	}	†W. S. Ayrton, Esq.
Micaceous Iron Ore; Bovey Tracey, Devonshire; very fine Specimens of Asbestiform Antimony Ore, Antimonial Silver Ore, Devon; White Mica on Quartz, Isle of Man; fine Specimen of Lead Ore, in Granite, Isle of Man	}	Mr. George Henwood.
Specimen of Calamites Cannæformis, from the Sandstone at Woodlesford	}	John Dobson, Esq., Woodlesford.
Nineteen Specimens of Minerals	}	Mrs. Hartley.
Skull of a large Species of Dog, found in Gravel at the depth of 16 feet, in the City of Norwich	}	†P. O'Callaghan, Esq.
Specimens of Stalactite	}	R. Arthington, jun., Esq.

ZOOLOGY.

Sixteen Specimens of the following British Birds:— Redbreast, male and female; Redstart, do.; Bullfinch, do.; Stonechat, do.; Creeper, do.; Blue Titmouse; Mealy Redpole, do.; Goldfinch, do.....	}	†Mr. Ingham.
Specimen of the Bull Frog	}	Mr. J. K. Clapham.
Specimen of the Short Sun Fish (<i>Orthogoriscus Mola</i>)	}	Purchased by the Society.

Specimen of the Spotted Woodpecker	} Mr. Thos. Benn.
Skull of the Great St. Bernard's Dog	} †W. S. Ward, Esq.
Specimen of the Sea Mouse (<i>Aphrodita Aculeata</i>)	} †J. W. Atkinson, Esq.
Specimen of the Wryneck	} †T. W. Stansfeld, Esq.
The Tooth of a Sperm Whale	} Mr. Walter Adderstone.
A Foreign Bat	} Mr. J. P. Calvert.

MISCELLANEOUS.

Piece of Wood, bored by the Tereido; and several Specimens of Foreign Woods used in the Arts	} Robt. Arthington, jun., Esq.
Bank Token for 3s. of George III. ...	} †C. C. MacCarthy, Esq.
Several Fragments of Pottery and other Remains, from Aldborough ...	} Mr. James Wardell.
Pair of Shoes, belonging to Archbishop Whitgift, from Croydon Abbey; a Powder Flask, found in the possession of J. Gawen, a Popish Priest, who was tried at the Old Bailey for high treason, and executed at Tyburn, 21st June, 1679	} *The Right Honourable Lord Londesborough, Grimston Park.
Three Yorkshire Tokens of the 17th Century, viz., Richmond, Thornborough, and Whitby	} *Wm. Boyne, Esq.
A Fan, once the property of Queen Anne; Pair of Slippers from Constantinople; a Chibouk from Constantinople	} Mr. T. L. Marsden.
Two Bronze Medals of the Revs. John and Charles Wesley	} Mr. J. P. Calvert.
Fac-Simile of the Warrant for the Execution of Mary Queen of Scots, from the original in the British Museum	} †P. O'Callaghan, Esq.
Fac-Simile of the <i>New England Courant</i> , from Feb. 4 to Feb. 11, 1723; the first Paper published by Benjn. Franklin, at Boston.....	} Mr. James.
A Collection of 273 Roman small Brass Coins, found in a hoard near Warter, in the East Riding, consisting of 17 types of Claudius Gothicus, 13 types of Gallienus, 1 of Salonina, 7 types of Victorinus, 11 types of Tetricis, 7 types of Tetricis, Jun.	} *The Right Honourable Lord Londesborough.

White Marble Pedestal for the bust of the late John Marshall, Esq.	†Messrs. J. G., H. C., and A. Marshall.
Three Querns found at Bardsey	The Rev. Jno. Holroyd, Bardsey.
Several Fragments of Ancient Crosses found in pulling down the Old Parish Church, at Leeds; and a Drawing of the most perfect, restored.....	R. D. Chantrell, Esq., London.
Five beautiful Photographs of Crosses at Ilkley and Collingham	†T. W. Stansfeld, Esq.
Bust of the late Wm. Hey, Esq., F.R.S.	†Wm. Hey, Esq.
Two Roman Tiles, from a Roman Villa, at Dalton Parlours, near Collingham.....	Rev. B. Eamson, Collingham.

LIBRARY.

Proceedings of the Ashmolean Society of Oxford: vols. 1 and 2, and parts 31, 32, and 33	The Ashmolean Society of Oxford.
Saxon Obsequies, illustrated by Ornaments and Weapons, &c., by the Hon. R. C. Neville: 4to.....	Wm. Watson, Esq.
Memoirs of the Literary and Philosophical Society of Manchester: vol. xiii.....	The Philosophical Society of Manchester.
The Sussex Archæological Collections, relating to the History and Antiquities of the County: vol. viii.....	The Sussex Archæological Society.
The Sussex Archæological Collections, &c., &c.: vols. 6 and 7	†P. O'Callaghan, Esq.
Smithsonian Contributions to Knowledge: vol. 8, 4to.	The Smithsonian Institution, Washington.
Miscellanea Graphica—Antiquities in the possession of Lord Londesborough: 4to., 1856	*The Right Hon. Lord Londesborough, Grimston Park.
Descriptive Catalogue of a Cabinet of Roman Family Coins belonging to His Grace the Duke of Northumberland, K.G., by Rear-Admiral William Smyth, K.S.F., D.C.L., F.R.S., &c. (Printed for private circulation.)	His Grace the Duke of Northumberland, Alnwick Castle.
A Catalogue of the Organic Remains of the County of Wilts, by Etheldred Benett	Miss A. Benett, Norton House, Wilts.
Proceedings of the Zoological Society of London, for 1856. Nos. 305 to 309	The Zoological Society of London.

- Memoirs of the Geological Survey of the United Kingdom : Decades v. and viii. Catalogue of Specimens, illustrative of the Composition and Manufacture of British Pottery and Porcelain, from the occupation of the Romans to the present time, by Sir H. De la Beche and T. Reeks. } Her Majesty's Government.
 Memoirs of the Geological Survey of Great Britain. The Ores of Great Britain. Mining Records for 1853-4-5, by R. Hunt, F.R.S. Annual Report of the Director-General of the Geological Survey of the United Kingdom }
- Transactions of the Historic Society of Lancashire and Cheshire : vol. 6 } The Historic Society of Lancashire and Cheshire.
 Proceedings and Papers of the Kilkenny and South-east of Ireland Archæological Society : vols: 2 and 3 ; and vol. 1, new series ; pts. 1 to 6 } The Kilkenny Archæological Society.
 Notices of the Meetings of the Royal Institution of Great Britain } The Royal Institution of Great Britain.
 The Quarterly Journal of the Geological Society : parts 47, 48, 49, 50.. } The Geological Society of London.
 Catalogus Numismatum Nummorumque : 4to. } *W. Boyne, Esq., London.
 The Antiquities of the Borough of Leeds, by James Wardell..... } The Author.
 Contributions to the Natural History of the Shark, by the Hon. Richd. Hill } The Hon. Richd. Hill, Spanish Town, Jamaica.
 Catalogue of the Fishes of Jamaica, by the Hon. Richard Hill }
 Third Report of the Department of Science and Art } Her Majesty's Government.
 Thirty-seventh Annual Report of the Royal Institute of Cornwall } The Royal Institute of Cornwall.
 Transactions of the Royal Society of Edinburgh : vol. 21, pt. 3 } The Royal Society of Edinburgh.
 Proceedings of the Royal Society of Edinburgh, 1855-6 }
 The Quarterly Journal of the Chemical Society of London : No 85 } The Chemical Society of London.
 Kansas, the seat of War in America, by Richard Boulby } The Author.
 Proceedings of the Geological and Polytechnic Society of the West Riding of Yorkshire, for 1855 } The Geological and Polytechnic Society.

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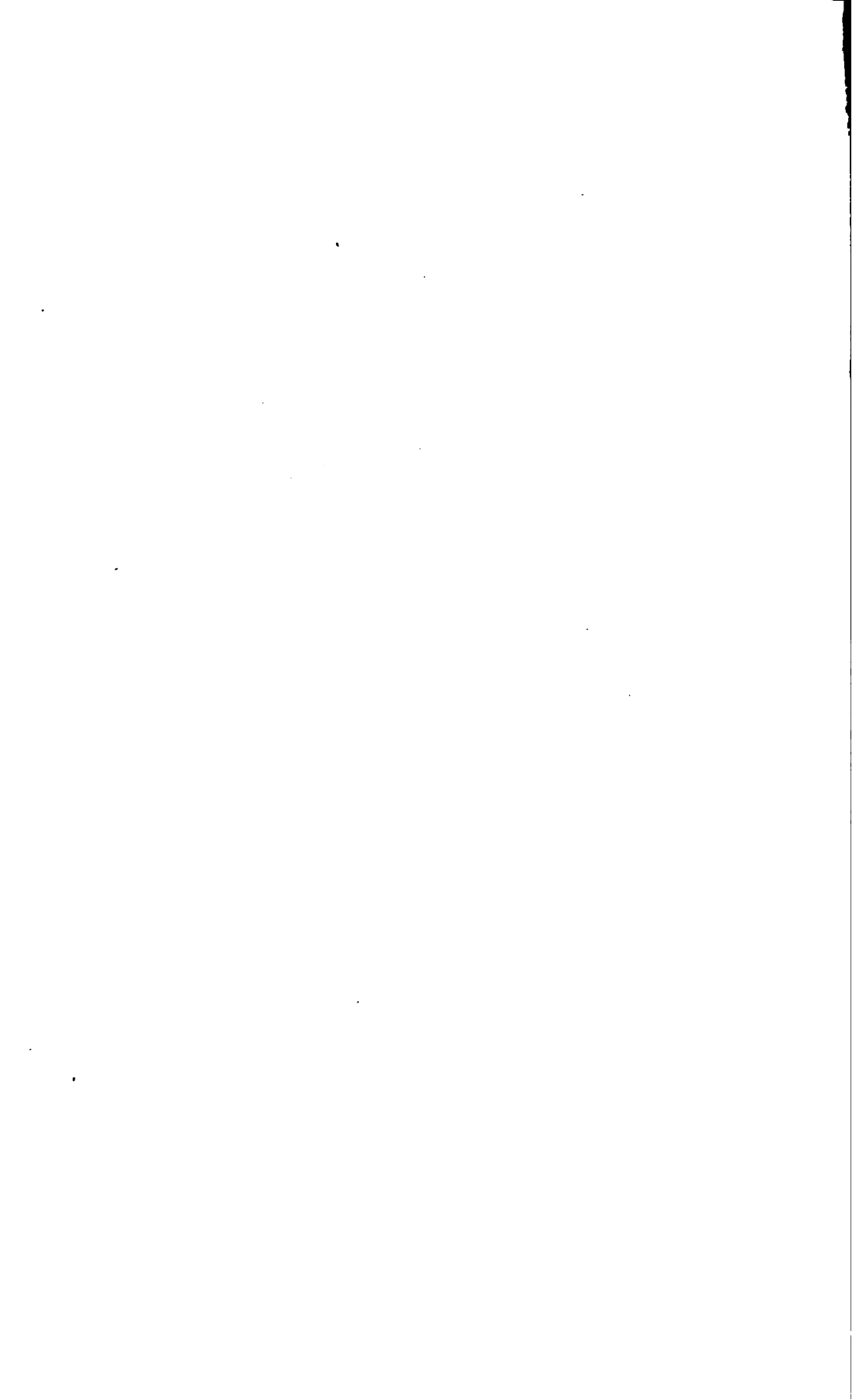
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John Wilson.
Philip Wolf.

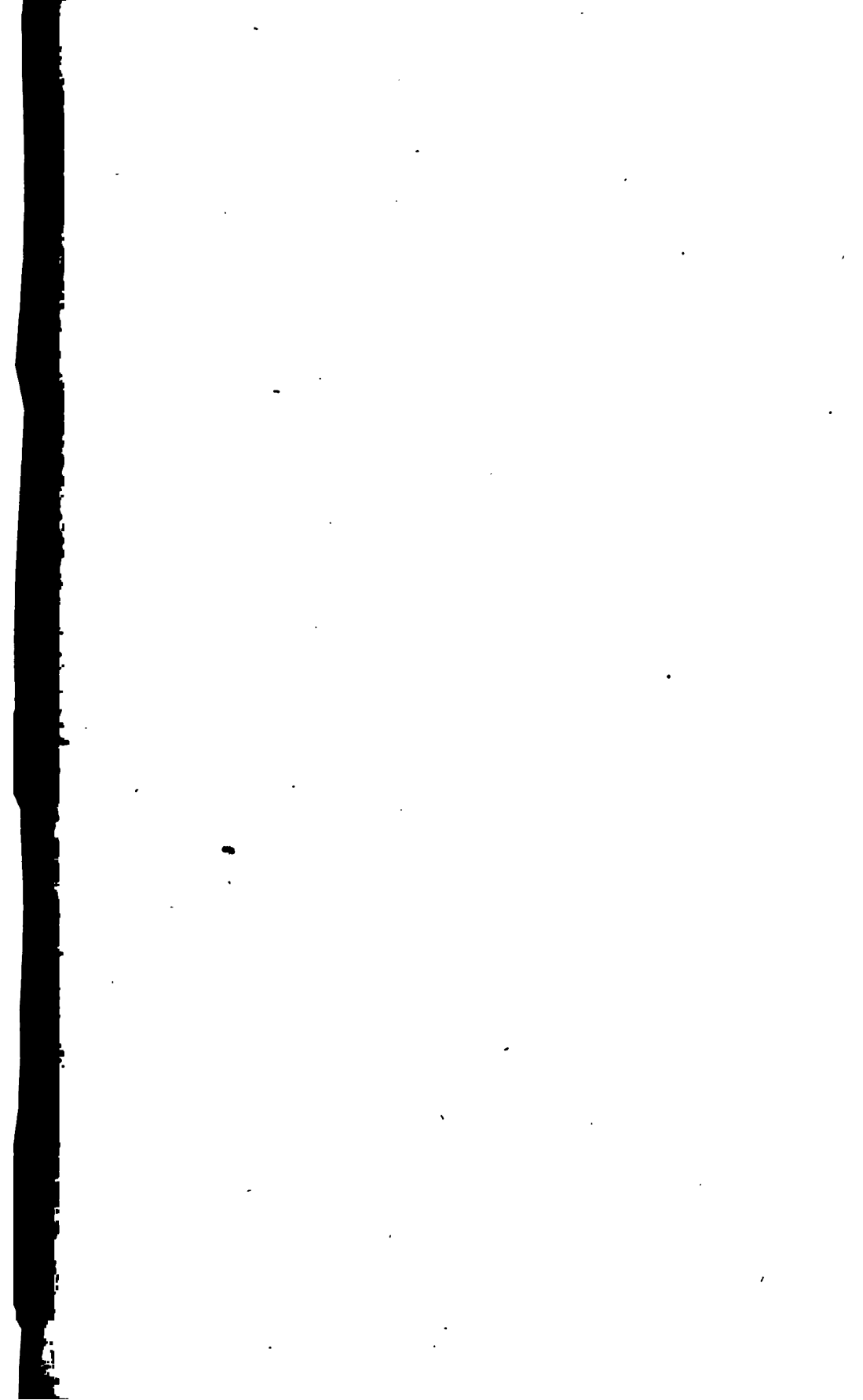
HONORARY MEMBERS.

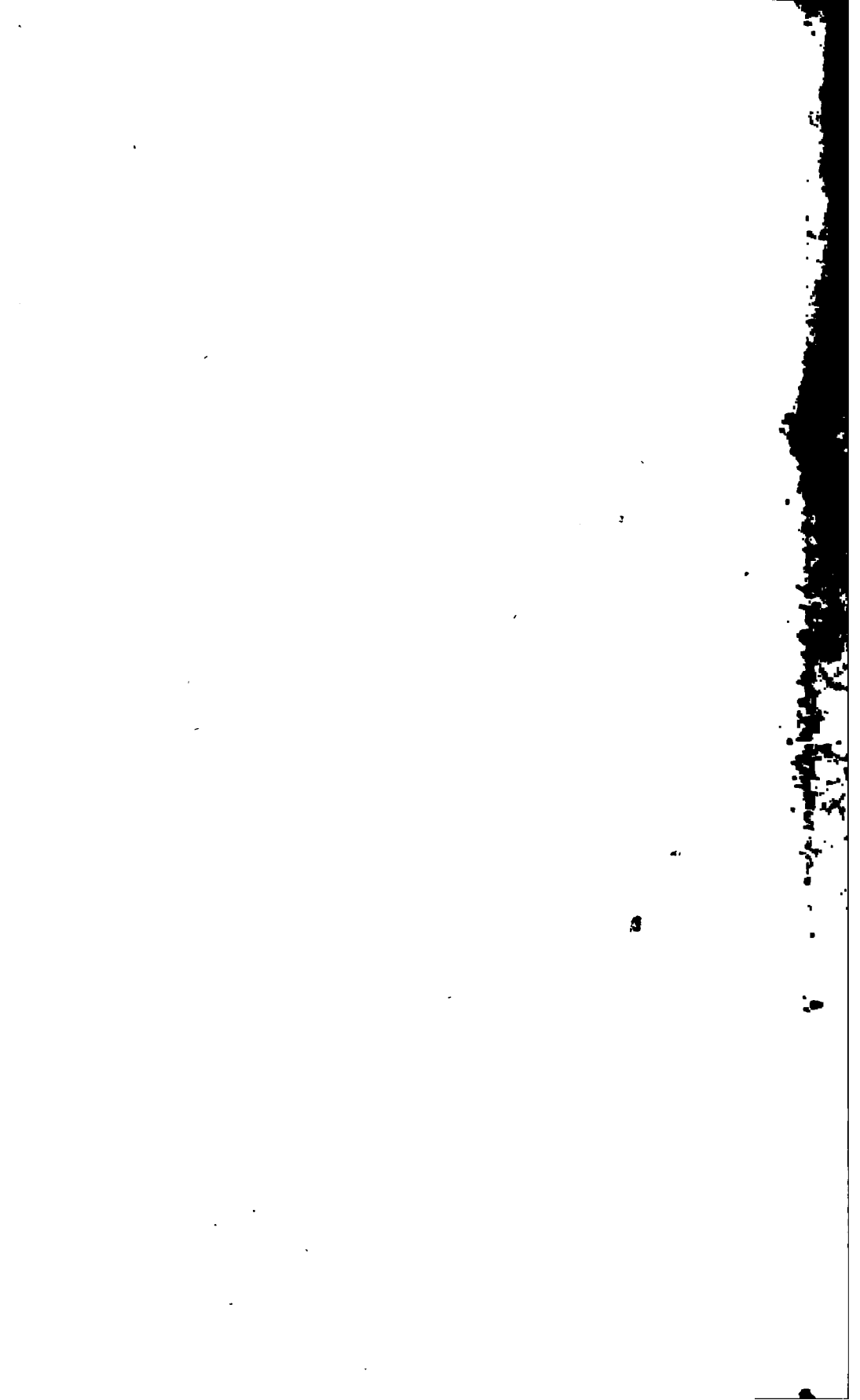
Those to whose name an asterisk [*] is attached, are deceased.

- Louis Agassiz, M.D., Professor of Comparative Anatomy, &c., *Cambridge, Massachusetts.*
- M. Allen, M.D., *Epping Forest.*
- *John Alderson, M.D., *Hull.*
- Samuel Bailey, *Sheffield.*
- Spencer F. Baird, M.D., Smithsonian Institution, Washington, United States.
- Greenwood Bentley, *Shipley, Yorkshire.*
- *George Bennett, *London.*
- William Boyne, F.S.A., *London.*
- *George Birkbeck, M.D., F.R.S., *London.*
- Edward William Brayley, F.R.L. and G.S., &c., *London.*
- Sir David Brewster, D.C.L., F.R.S., &c., *Edinburgh.*
- *Very Rev. Wm. Buckland, D.D., F.R.S. and G.S. &c., Dean of Westminster, Professor of Mineralogy and Geology in the University of Oxford, *Westminster.*
- Joseph Burland, *South Cave.*
- *William Carey, *London.*
- *Thomas Campbell, *London.*
- Joseph Clark, *Cincinnati, U.S.*
- *S. T. Coleridge, *London.*
- *John Dalton, F.R.S., Corresponding Member of the French Institute, *Manchester.*
- *Sir Humphrey Davy, Bart., P.R.S., *London.*
- Henry Denny, A.L.S., Corresponding Member of the Academy of Natural Sciences of Philadelphia, of the Syro-Egyptian Society of London, Honorary Member of the Philosophical Society of Dickinson College, Carlisle, Pennsylvania, of the Yorkshire Philosophical Society, and of the Norfolk and Norwich Museum, *Leeds.*
- J. Drake, M.D., *Cincinnati.*
- William Hey Dykes, F.G.S., Honorary Member of the Yorkshire Philosophical Society, *Wakefield.*
- *John Field, *Low Moor.*
- The Right Hon. Earl Fitzwilliam, F.R.S., &c., *Wentworth House.*
- *Davies Gilbert, M.P., President of the Royal Society, *London.*
- George Goldie, M.D., *York.*
- Robert E. Grant, M.D., F.R.S.L., and E., and F.L.S., G.S., Z.S., W.S., &c., &c., Professor of Comparative Anatomy and Zoology in the University of London, *London.*
- *Robert Hall, A.M., M.P., Barrister-at-Law, *London.*
- Rev. W. V. Vernon Harcourt, F.R.S., F.G.S., Vice-President of the Yorkshire Philosophical Society, *Bolton Percy.*
- *B. R. Haydon, Historical Painter, *London.*
- *William Henry, M.D., F.R.S., *Manchester.*
- Luke Howard, F.R.S., *Ackworth.*
- *Mons. Champollion le Jeune, *Paris.*
- *J. F. W. Johnston, A.M., F.R.S., Reader in Chemistry and Mineralogy in the University of Durham.
- The Right Hon. Lord Londesborough, K.C.H., F.S.A., &c., *Grimston Park.*
- William M. Maude, *Knoctrop.*
- *Thomas Meade, *Chatley Lodge, near Bath.*
- *Andrew Melly, M.E.S.L., &c., *Liverpool.*
- The Chevalier Michelotti, *Turin.*
- *Edward Milligan, M.D., *Edinbro'.*
- *James Montgomery, *Sheffield.*
- William Osburn, M.R.S., Lit., &c., *Leeds.*

- *Samuel Parkes, F.L.S., M.G.S.,
London.
- Sir Joseph Paxton, M.P., *Chatsworth.*
- John Phillips, F.R.S., F.G.S., &c.,
Honorary Member of the York-
shire, Hull, Sheffield, and Halifax
Philosophical Societies, *Oxford.*
- Col. Sir Henry Rawlinson, C.B.,
F.R.S., M.R.A.S., &c., *London.*
- Benjamin Rotch, F.A.S., *London.*
- *Rev. Wm. Scoresby, D.D., F.R.S.,
&c., Corresponding Member of
the Institute of France, *Torquay.*
- Rev. Adam Sedgwick, M.A., F.R.S.,
Woodwardian Professor of Geology
in the University of Cambridge.
- *Rev. Samuel Sharp, M.A., *Wake-
field.*
- Rev. William Sinclair, M.A., *Pul-
borough Rectory, Sussex.*
- *William Smith, LL.D., F.G.S.,
Hackness.
- *William Smithson, *Heath, near
Wakefield.*
- *James De Carle Sowerby, F.L.S.,
&c., *London.*
- John Spear, *London.*
- Rev. William Thorp, A.M., *Misson-
Vicarage, Bawtry.*
- Thos. Stewart Trail, M.D., F.R.S.,
Professor of Medical Jurispru-
dence in the University of Edin-
burgh.
- J. K. Walker, M.D., *Deanshead,
Halifax.*
- Charles Waterton, Hon. Member
of the Yorkshire Philosophical
Society, and British Institution,
Walton Hall.
- Rev. William Whewell, D.D., F.R.S.,
F.G.S., and Master of Trinity
College, Cambridge.
- *The Venerable Francis Wrangham,
M.A., F.R.S., *Hunmanby.*
- *Rev. George Young, A.M., M.W.S.,
Whitby.







*Boston Soc. of
Nat. History
Recd. July¹²/59*

LEEDS
PHILOSOPHICAL & LITERARY
SOCIETY.

THE ANNUAL REPORT
FOR 1857-8.

233

Se 62/

Boston Society of Natural History.

From

Received

THIRTY-EIGHTH REPORT
OF
THE COUNCIL
OF THE
LEEDS
PHILOSOPHICAL & LITERARY
SOCIETY,

AT THE CLOSE OF THE SESSION,

1857-8.

(READ MAY 4TH, 1858.)

LEEDS:
PRINTED BY C. KEMPLAY, INTELLIGENCER OFFICE.
MDCCLXVIII.

FORM OF A BEQUEST TO THE SOCIETY.

Every person desirous of bequeathing to the Society any Sum of Money, Specimens, Books, Instruments, or other Property is requested to make use of the following Form :—

I give and bequeath to the Trustees for the time being, of the Society established at Leeds, called "THE LEEDS PHILOSOPHICAL AND LITERARY SOCIETY," for the use of the said Society, the sum of _____ to be paid out of such part of my Personal Estate as I may legally charge therewith. [Or here enumerate the effects or property intended to be bequeathed.] And I direct that the Receipt of the Treasurer of the said Society for the time being shall be an effectual discharge to my executors for the said legacy.

REPORT OF THE COUNCIL

AT THE CLOSE OF THE

THIRTY-EIGHTH SESSION.

The Council have the pleasure of reporting that the Thirty-Eighth Session of the Leeds Philosophical and Literary Society, which has now reached its close, has been a highly successful one, whether viewed as regards the literary proceedings of the Society, the extension of its Museum, its financial position, or its general prosperity.

It has been distinguished by a series of papers, and on subjects of great and varied interest, by gentlemen eminently qualified to treat those subjects with ability; and which have attracted and gratified large and generally increasing audiences.

The following is a list of the papers read at the General Meetings:—

1. "On the Geology of the Lake District"—by James Garth Marshall, Esq., F.G.S., *President*—(Read Oct. 20th, 1857.)

2. "On the Mogul Dynasty in India"—by W. E. Forster, Esq.—
(Read Nov. 3rd, 1857.)
3. "The Conversazione"—(Nov. 17th, 1857.)
4. "Observations on the Town and Country System, as exemplified
in the Social and Economical Condition of the People"—by
the Right Hon. Lord Monteagle—(Read Dec. 1st, 1857.)
5. "On Macbeth"—by the Rev. Wm. Sinclair, M.A.—(Read Dec.
15th, 1857.)
6. "On Public Clocks"—by Edmund Beckett Denison, Esq., Q.C.—
(Read Dec. 22nd, 1857.)
7. "On Plato"—by the Rev. W. Whewell, D.D., F.R.S., &c.,
Master of Trinity College, Cambridge—(Read January
5th, 1858.)
8. "On the Effects of the Crusades"—by the Rev. Dr. Hook—
(Read Feb. 2nd, 1858.)
9. "On the Captivity of John, King of France, in England"—by
the Rev. Edward Trollope, M.A., F.S.A.—(Read February
23rd, 1858.)
10. "Notes on English Architecture"—by E. M. Barry, Esq., of
London—(Read March 2nd, 1858.)
11. "On a Prevailing Fallacy in the use of the term Education"—
by E. B. Wheatley Balme, Esq., M.A.—(Read March
16th, 1858.)
12. "On St. Louis and his Times"—by the Rev. Alfred Barry,
M.A., *Vice-President*—(Read March 23rd, 1858.)
13. "The History of India"—by Viscount Goderich, M.P.—(Read
April 13th, 1858.)
14. "On the Influence of Local Causes in Determining National
Character"—by Thomas Marshall, Esq.—(Read April 20th,
1858.)

During the Christmas Vacation the usual course of Juvenile Lectures was delivered, and they were well attended. The subjects were—

“A Visit to some of the Tombs of Egypt”—by the Rev. H. R. Reynolds, B.A.

“Shells and their Inhabitants”—by the Rev. Thos. Hincks, B.A.

“Suggestions how to Commence the Study of Chemistry”—by Mr. W. S. Ward, one of the Secretaries to the Society.

“On the Locust and its Kindred”—by Mr. H. Denny, A.L.S.

In the month of November the annual *Conversazione* was held, which, like its predecessors, attracted a large assemblage of members and friends, and presented a rich collection of interesting objects for inspection. Amongst them were Roman Remains, found near Adel and Bramhope, and original Portraits of Historical Personages, from Capt. Chamberlain. The Holograph Letters of celebrated Military Commanders, contributed by Mr. O’Callaghan; Paintings by Rosa Bonheur, and other Artists of celebrity; an extensive series of Photographs, by Foreign and Native Artists; and specimens of Indian Manufacture.

During the evening Mr. Nunneley gave a Biographical Sketch of Laura Bridgeman, and exhibited her Autograph.

Mr. O’Callaghan gave a short account of the Historical Facts connected with the Letters exhibited.

Mr. W. S. Ward explained the process by which Milk is converted into Powder (the Desiccated Milk of Commerce).

The Rev. Thomas Hincks gave a Description of the Telegraphic Plateau in the North Atlantic.

Towards the close of the Session Mr. W. E. Forster favoured the Society with a Lecture "On the Condition of India under British Rule," which was highly interesting, and embraced many important topics. In consequence of the intense anxiety felt to obtain information on all subjects relating to our Indian possessions, the Lecture was very fully attended.

In anticipation of the Meeting of the British Association for the Advancement of Science, in Leeds, during the approaching autumn, the Council thought it desirable to improve the arrangements of the Museum, in order to exhibit the valuable specimens it contained to greater advantage. The projected improvements, however, not only involved considerable labour, but rendered it necessary to provide additional Cases. The Curators, therefore, ordered the West side of the Gallery to be fitted up, so as to correspond with the other portions of it; adding two new Cases on the East and North sides of the Zoological Room, a new Table Case in the Geological Room, and a Cabinet for the Insects, at the cost of about £100, which sum they were confident the liberality of the Members would assist them to defray. It affords the Council much pleasure to report that they have great

reason to hope that the anticipation will be realized, and that none of the regular funds of the Society will be required for this necessary expenditure. Amongst other improvements contemplated by the Curators is the arrangement of the Geological Specimens, illustrative of the Yorkshire Coal Field and its superficial deposits, in a separate room, by which not only an Epitome of the Geology of the immediate neighbourhood, but practical Illustrations of the Organic Remains of the Carboniferous Epoch, will be obtained.

In the new table case in the centre of this room will be arranged the invaluable series of Hippopotamic and other Mammalian remains from the Aire Valley deposit, which form so important a feature in our collection of local Geology.

The principal additions to the Mineralogical and Geological departments during the Session, are the fine Specimen of Lead Ore, weighing five cwt., from the Craven Moor Mine, presented by the Committee of Management, Messrs. W. C. Buck, Samuel Idle, John Barraclough, George Demaine, and John Dunning; a splendid mass of Wood-ocrinus Macroductylus, and several smaller specimens, presented by Edward Wood, Esq., F.G.S., of Richmond. This new Encrinite is a most important acquisition to the Museum, not only as an example of a new genus, but from being peculiar to the West Riding of Yorkshire.

A fine pair of Horns of the Red Deer from the banks of the Tyne, at Jarrow, has been presented by the Directors

of the North Eastern Railway Company, through C. G. Maclea, Esq.

And the interesting series of Models of extinct Reptiles, as restored by Mr. Waterhouse Hawkins at Sydenham, presented by the President and Arthur Marshall, Esq.

In the Zoological Room the class Mammalia has been arranged in accordance with the views of Professor Owen, whose high European reputation and profound knowledge of Structural Anatomy are a sufficient guarantee for the accuracy of the classification he propounds.

In order, however, to complete the illustrations of the Animal Kingdom, many specimens were required, as several important groups were either wanting or imperfectly represented. Your Sub-Curator therefore, having ascertained where some of these desirable objects could be procured, made an appeal to several Members of the Society for aid to purchase them. The necessary funds have been munificently furnished, and by this means the Museum has been enriched by many specimens of great value and interest, amongst which are the Koala (*Phascolarctos Fuscus*), the Australian Opossum (*Phalangista Vulpina*), the Spotted *Dasyurus* (*Dasyurus viverrinus*), the Striped *Perameles* (*Perameles fasciata*), the Pademelon Wallaby (*Halmaturus Thetidis*), Presented by His Worship the Mayor of Leeds, Peter Fairbairn, Esq.

The Great Kangaroo, from William Aldam, Esq.

The Three-toed Sloth, Flying Phalanger and Woolly Lemur, from William Beckett, Esq.

The Great Ant-eater, from William Gott, Esq.

The Cape Ant-eater, from James Brown, Esq., M.P.

The Ursine Ant-eater, and Prehensile-tailed Porcupine,
from J. T. Leather, Esq.

The Short-tailed Pangolin, from Viscount Goderich, M.P.

The Long-tailed Pangolin, from G. S. Beecroft, Esq.,
M.P.

The *Echidna setosa*, and *Ornithorynchus paradoxus*,
from the Council of the United Service Museum, London.

The two last-mentioned animals, in conjunction with the above Donations from the Mayor and Mr. Aldam, furnish a good illustration of the principal groups in the order Marsupialia and the entire order Monotremata, while the contributions from Mr. William Gott, Mr. Brown, Mr. Beckett, Viscount Goderich, Mr. Leather, and Mr. Beecroft, supply examples of *nearly* all the genera in the order Bruta, which have long been desiderata in the Museum.

The fine skull and horns of the Arnee, presented by Viscount Goderich, the magnificent Horns of the Wapiti Deer, from Robert Barr, Esq., the Skull of the South African Wild Boar, from W. T. Watson, Esq., and the Horn of the Ibex, from P. O. Callaghan, Esq., are also important acquisitions to other orders of the class Mammalia.

The new cases in the Gallery have been appropriated to the British Land Birds, which had hitherto been incorporated in the general ornithological collection, and thus are now rendered more available for reference. The foreign

series has been enriched by several rare specimens illustrating important genera—as the *Apteryx Australis*, presented by John Calverley, Esq.; the Long-tailed Trogon, presented by Arthur Marshall, Esq.; the Boat-bill and Emu, presented by Samuel Birchall, Esq.; the Hoatzin and Brush Turkey, presented by Wm. Glover Joy, Esq.; the Cock of the Plains, presented by George Noble, Esq.; the Trumpeter Hornbill, presented by R. W. Simpson, Esq.

The Mollusca have been augmented by nearly 1000 specimens of Californian Shells, munificently presented by Mrs. John Wade, and the whole collection is now undergoing re-arrangement by the Rev. Thos. Hincks, who has kindly accepted the Curatorship of the Invertebrate Animals. Other very important acquisitions to this department are daily expected from distant friends, who have promised their aid. The Council would, however, again press upon the attention of the Members the necessity for co-operation in order to complete, as far as possible, the series of British Shells, Zoophytes, Crustella, &c.

The contributions to the Library have been both numerous and valuable, especially those by and through the Smithsonian Institution at Washington, the Academy of Sciences of Philadelphia, the Boston Natural History Society, the American Philosophical Society, the Academy of Science at St. Louis, the Directors of Harvard College, Professor Bache, the State and Assembly of California, the State Historic Society of Wisconsin, the American Government, and Professor Girard.

The Council have the pleasure to report that the anticipation expressed last year has been realized, in the addition of the Proceedings and Papers of the Geological and Natural History Societies of Dublin, the Archæological and Architectural Society of Chester, the proceedings of the Archæological and Architectural Societies of Northampton, York, Lincoln, Bedford, and Worcester, the Journal of the Bath and West of England Agricultural Society.

In consequence of the increase of the Library more space was required, and the Council have therefore fitted up with book cases the room formerly appropriated as a laboratory; as an additional Library room, by which alteration considerable space is obtained for this purpose, at a comparative small outlay.

In order to extend the advantages of the Society, a Rule was passed during the recess by which, in addition to the existing rights of Members and Subscribers, all residents in the family of a Member or Subscriber (except gentlemen above 21 years of age) should be admitted to the Ordinary Meetings and to the Lectures and Museum of the Society on payment of an annual subscription of 5s. It is satisfactory to report that already 18 Subscribers of this class have been elected, in addition to which there has been an accession of 8 Ordinary Members and 30 Annual Subscribers during the Session; so that, notwithstanding a slight loss in the last two classes by removal or death, there is a decided improvement in the finances of the Society.

It will be observed the amount received for admissions to the Museum is less than in former years. This, however, does *not* arise from a decrease in the number of Visitors; but, from the Museum having been closed for the last *four months* to allow of the necessary cleaning and re-arrangement of the Specimens. This slight temporary loss will be more than compensated by the increased value of the Museum, and ought on that account to be considered matter for congratulation rather than regret.

On the removal of the Rev. Wm. Sinclair to a distant field of spiritual labour, several Members of the Society, who were anxious to mark their estimation of the valuable services he had rendered to the Society, subscribed for a Marble Bust of that gentleman, to be placed in the Lecture Room. The execution was entrusted to the Baron Marchetti, for the sum of One Hundred Guineas, and the Council have much satisfaction in reporting that the bust is both life-like as a portrait and admirable as a work of art.

From the insufficiency of light on the principal staircase, the Ethnological Collection has not hitherto been seen to advantage, and the general appearance of the Vestibule was very objectionable. The Council have great pleasure in reporting that this defect has been entirely removed by the liberality of William Gott, Esq., who at his own expense has placed a large plate of glass on the top of the lantern from which the light is derived.

From the Meteorological Register kept in the Hall the following abstract is derived, to show the monthly averages for the past year :—

1857.	Mean Temperature.	Mean Height of Barometer.	Total Amount of Rain in Inches.
January	38.2	29.630	2.030
February	41.5	29.898	0.315
March	41.4	29.695	3.230
April	45.3	29.640	3.110
May	52.9	29.827	1.615
June	62.6	29.876	2.785
July	62.7	29.793	2.140
August	63.6	29.879	4.785
September	60.8	29.772	2.195
October	53.2	29.703	1.170
November	46.2	29.994	1.285
December	46.9	30.057	0.645

The greatest degree of Heat, as indicated by the Thermometer, in the sun was 114°, on the 28th June; greatest in the shade, 91°, on the 24th June; the minimum, 20°, on the 29th January.

The greatest Barometric pressure was on the 11th of November, 30.720 inches; the temperature of the Mercury being 61°. The least pressure was on 14th March, being 28.688; temperature of Mercury 51°.

The greatest fall of rain was on the 6th August, being 1.530,

LEEDS PHILOSOPHICAL AND LITERARY SOCIETY.

ORDINARY ACCOUNT.

	£.	s.	d.
Receipts.			
By Balance in hands of the Sub-Curator		18	2
Subscription of 67 Members, at 2s. each		140	0
68 Subscribers, at 2s. each		60	0
Subscription and Deposit of 8 New Members, at £5. 5s.		42	0
32 New Subscribers		37	0
17 Subscribers, at 5s.		4	0
Arrears of Subscriptions		13	0
Half-year's Rent of Geological Society, in arrear		10	0
Half-year's Rent current year		10	0
Rent of Lecture Room		11	0
One Copy of the Transactions of the Society		0	3
Admissions to the Museum		23	6
Less Commission		1	6
Balance due to Banker		22	0
		6	10
		6	0
Disbursements.			
To Balance due to the Treasurer		32	6
Insurance		6	4
Gas and Coals		7	3
Cooks		8	10
Tradesmen's Bills:—Hopes, Painters		8	7
Benton, Joiners		13	10
Do. for New Library		19	0
Denby, for Mending		3	0
Hall, Plumber		11	8
Nelson and Son		11	4
Burrow		3	6
Harvey and Reynolds		1	2
Longley and Son		5	9
		3	6
Printing and Advertising:—Baines and Son		12	0
C. Kemplay		0	0
Hobson and Son		1	1
Fulley		0	0
Books and Stationery:—J. Cross		2	6
Heston and Son		4	0
Inchbold		6	0
Journal of Irish Academy		0	0
		0	0
Sub-Curator's Salary		7	6
Porter		100	0
Purchase, Carriage and Preservation of Specimens		37	0
Water Rate, £1; Main Sewer Rate, 8s. 6d.		51	8
Expenses of Conversations		1	6
Less Receipts		16	0
		3	0
Subscription to the Society of Arts		10	17
Tea and Coffee for General Meetings		9	0
College and Receipt Stamp		6	7
Printery Expenses, Cleaning, &c.		0	1
Interest and Commission to Bankers		21	10
Balance in Sub-Curator's hands		3	0
		5	4
		0	4
		23	7
		16	2

DONATIONS & ADDITIONS TO THE SOCIETY'S MUSEUM.

Those marked thus (+) are Members of the Society.

GEOLOGY AND MINERALOGY.

- | | | |
|---|---|---|
| Section of a large Ammonite from the
Portland Oolite | } | Mr. J. Beckwith. |
| Very fine Pair of Horns, of the extinct
Red Deer, found on the Banks of the
Tyne, at Jarrow, while excavating for a
Dock for the North Eastern Railway
Company, in November, 1857 | } | The Directors of the North
Eastern Railway Company, by
†C. G. Maclea, Esq. |
| Silver Lead, Malachite, Malachite and
Blue Carbonate of Copper, Red Oxide,
with Blue and Green Carbonate of
Copper from Burra Burra, Quartz with
Gold, from Ballarat, Australia | } | Mr. Richard Binney. |
| Fine Slab of Gritstone, from Swaledale,
containing several Specimens of
Woodocrinus Macroductylus, and four
smaller Specimens | } | Edward Wood, Esq., F.G.S.,
Richmond. |
| Very fine Mass of Native Lead, from
Craven Moor Mines, weighing 3 cwts. | } | Presented by the Directors,
Messrs. W. C. Buck, Sam.
Idle, John Barraclough, Geo.
Demaine, and John Dunning. |
| Fine Specimens of Pecten inæquivalvis,
from Middlesborough..... | } | †R. W. Simpson, Esq. |

ZOOLOGY.

- Specimens of the Whitebait } †Mr. H. S. Smeaton.
- Very fine Skull and Two Snouts of the African Wild Boar, Horns of the Reit Bok and Spring Bok } W. T. Watson, Esq.
- Two Specimens of *Echinus Esculentus*, and Specimen of the Common Crab with its Shell covered with Oysters ... } Mr. J. Harrington, Flamborough.
- Magnificent Head and Horns of the Wapiti Deer (*Cervus Strongiloceros*), from Vancouver's Island } Robert Barr, Esq.
- Specimen of *Aphrodita Aculeata* } †Mr. J. Holmes.
- Stuffed Specimens of *Echidna Spinosa*, and *Ornithorynchus Paradoxus*..... } The United Service Institution, London.
- 1000 Specimens of Shells, from Mazatlan, California } Mrs. John Wade.
- Beautifully Preserved Specimen of the Trout, from the Orkney Isles; Two Shark's Jaws, and Snout of the Sawfish } Dr. Hobson.
- Fine Specimen of the Great Kangaroo (*Macropus Major*) } †Wm. Aldam, Esq.
- Five Quadrupeds from Australia:—The Koala (*Phascolarctos fuscus*); Spotted Dasyurus (*Dasyurus Viverrinus*); Pademelon Wallaby (*Halmaturus Thetidis*); Striped Parameles (*Parameles Fasciata*); Vulpine Phalanger (*Phalangista Vulpina*) } †Peter Fairbairn, Esq., Mayor of Leeds.
- Fine Horns of the Ibex (*Capra Ibez*)... } †P. O'Callaghan, Esq.
- Fine Specimens of the Three-toed Sloth (*Bradypus Tridactylus*); Squirrel Petaurus (*Petaurus Sciureus*); and the Mongous (*Lemur Mongo*). } †Wm. Beckett, Esq.
- Very fine Specimen of the Great Ant-eater (*Myrmecophaga Jubata*) } †William Gott, Esq.
- Fine Specimen of the Cape Ant-eater or Aardwark (*Orycteropus Capensis*) } †James Brown, Esq., M.P.

Specimens of the Brazilian Porcupine (<i>Syntheres Prehensilis</i>); and Tamandua (<i>Myrmecophaga Tamandua</i>)	} John Tollerton Leather, Esq., Leventhorp Hall.
Specimen of the Undulated Parroquet...	} Miss Dixon.
Beautiful Specimen of the Long-tailed Trogon (<i>Trogon Resplendens</i>)	} †Arthur Marshall, Esq.
Skeleton of the Llama	} Purchased by the Society.
Specimen of Undulated Parroquet	} Mr. John Taylor.
Specimens of the Hoatzin (<i>Opisthocomus cristatus</i>) and, Brush Turkey (<i>Tallegalla Lathamii</i>)	} †W. Glover Joy, Esq.
Young Specimen of the Emu (<i>Dromiceus Novæ Hollandiæ</i>) and Boatbill (<i>Cancroma cochlearea</i>)	} †Samuel Birchall, Esq.
Specimen of the Rocky Mountain Grouse (<i>Centrocercus Urophasianus</i>).....	} †George Noble, Esq.
Specimen of the Trumpeter Hornbill (<i>Bucerus Buccinator</i>)	} †R. W. Simpson, Esq.
Fine Pair of the Apteryx (<i>Apteryx Australis</i>)	} †John Calverley, Esq.
Very fine Specimen of the Long-tailed Pangolin (<i>Manis Longicaudata</i>)	} †G. S. Beecroft, Esq., M.P.
Magnificent Head and Horns of the Arnee (<i>Bos Arnee</i>) and Specimen of the Short-tailed Pangolin (<i>Manis Brachyura</i>).....	} Viscount Goderich, M.P.

MISCELLANEOUS.

Models of the Iguanodon Megalosaurus, Pterodactyle, Ichthyosaurus, Plesiosaurus and Labyrinthodon, as restored by Mr. Waterhouse Hawkins, at Sydenham	} †James Garth and †Arthur Marshall, Esqs.
Encaustic Tiles, from Rivaulx and Fountains Abbey	} Mr. James Wardell.

Roman Tile found in excavating a portion of London Wall, in Aldermanbury Postern, 1857.....	}	Mr. Harland.					
Fragment of the Altar Cloth, from Sevastopol		} †Mr. C. Pegler.					
An Old Engraving of Pontefract Castle...							
Samples of Wheat and Barley, from the Plains in South Australia	}	Mr. Richd. Binney.					
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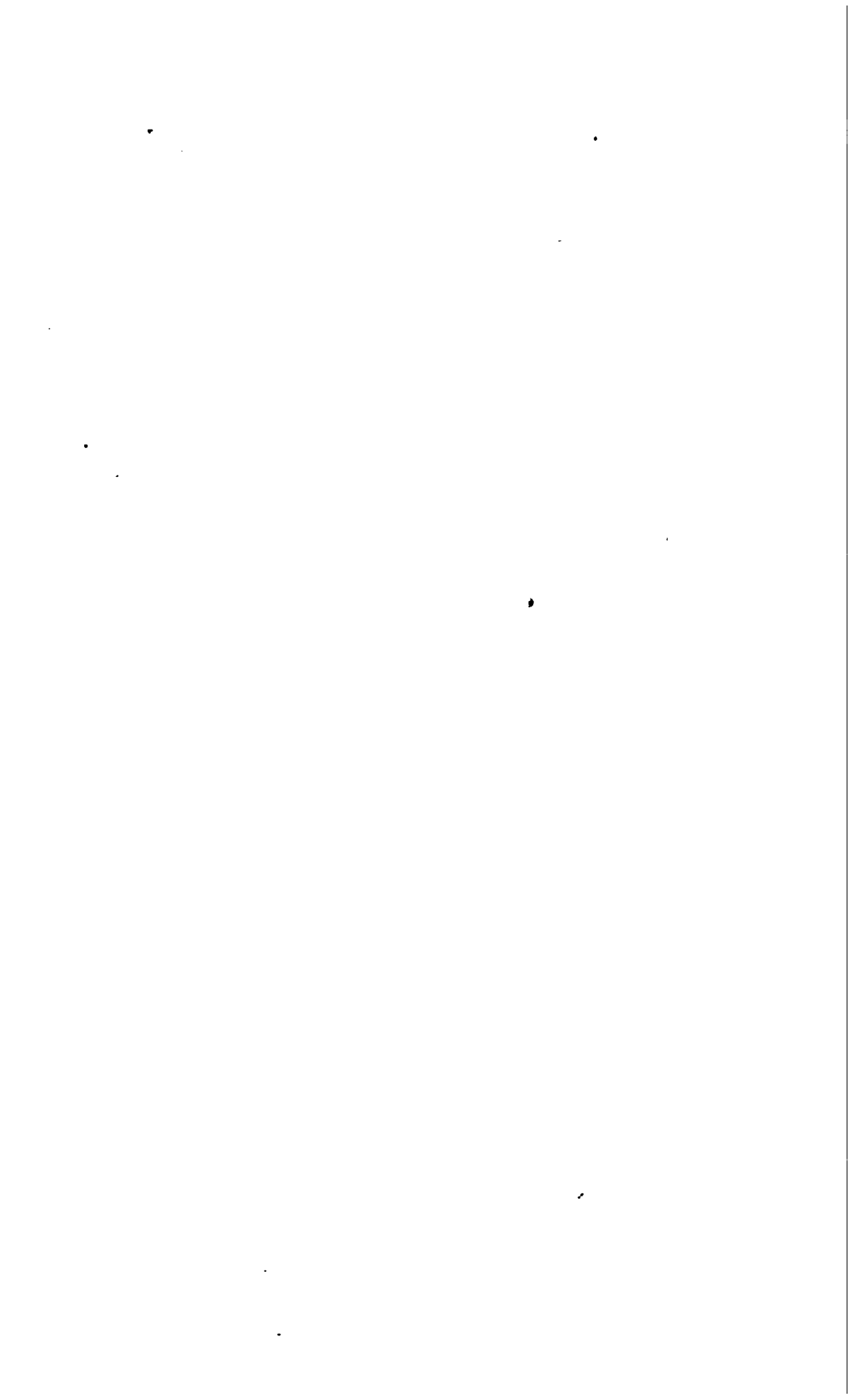
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PHILOSOPHICAL AND LITERARY SOCIETY.

ANNUAL REPORT

FOR
1858-59.

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Boston Society of Natural History.

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THIRTY-NINTH REPORT

OF

THE COUNCIL

OF THE

LEEDS

Philosophical and Literary Society,

AT THE CLOSE OF THE SESSION,

1858-59.

Leeds :

PRINTED BY J. HEATON AND SON, 7, BRIGGATE.

M.DCCC.LIX.

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REPORT OF THE COUNCIL

AT THE CLOSE OF THE

THIRTY-NINTH SESSION.

In reviewing the proceedings of the Twenty-ninth Session of the Leeds Philosophical and Literary Society, the Council have great pleasure in reporting to the Members and Subscribers, that it has been one of the most successful, in every point of view, which the annals of the Institution record.

Previous to the usual commencement of the Session, the Society was honoured with a Paper from Sir John F. W. Herschel, Bart., "On Sensorial Vision." The scientific eminence of this illustrious philosopher, and the importance and originality of the subject, attracted a very numerous auditory. The Paper was listened to with much interest, and made so deep an impression, that a unanimous request was made by the assembly, that Sir John Herschell would be so kind as to allow it to be published at the expense of the Society. It has been accordingly printed, and distributed amongst the members, and copies have also been forwarded to other similar Institutions.

At the General Meetings, a series of Papers of high literary and scientific character, have been read by Gentlemen of extensive acquirements and acknowledged reputation, and, as might have been expected, they were attended by numerous and attentive audiences.

The following is a list of these Papers :—

1. "On the Objects and Importance of Philosophical and Literary Societies,"—by the very Reverend W. F. Hook, D.D., Dean of Chichester, your President—(Read 26th Oct., 1858.)
2. "On Bells,"—by Mr. W. S. Ayrton, F.S.A., an old and efficient Member of your Council—(Read 2nd Nov., 1858.)
3. "On the Conditions which Promote the early Civilization of Man,"—by Mr. John Crawford, F.R.S.—(Read 16th Nov., 1858.)
4. "On Mazes and Labyrinths,"—by the Rev. Edward Trollope, M.A., F.S.A.—(Read 7th Dec., 1858.)
5. "A short Account of the Steppes and Plains of Central Asia, and the Nomade Tribes inhabiting them,"—by Mr. T. W. Atkinson, F.R.G.S.—(Read 21st Dec., 1858.)
6. "On Sir Walter Scott,"—by Mr. James Lennox Hannay, Barrister-at-Law—(Read 5th January, 1859.)
7. "On Buddhism and its Pilgrimages in the Seventh Century, A.D."—by the Rev. H. R. Reynolds, B.A., an old Member of your Council—(Read 18th Jan., 1859.)
8. "On Sir Christopher Wren and his Times,"—by Mr. E. M. Barry, M.R.I.B.A.—(Read 1st Feb., 1859.)
9. "Illustrations of the Metrical System of Weights and Measures,"—by the celebrated Statician, Mr. James Yates—(Read by Mr. T. W. Stansfeld, a Member of your Council, 15th Feb., 1859.)
10. "On Civilization, and some recent Theories thereon,"—by the Rev. Alfred Barry, M.A., one of your Vice-Presidents—(Read 1st March, 1859.)

11. "On the Sources of English History,"—by Mr. Thomas Wright, M.A., F.S.A., Member of the Institute of France—(Read 15th March, 1859.)
12. "The State and Prospects of England considered in connection with the National Character,"—by the Rev. Wm. Sinclair, M.A., one of your respected ex-Presidents, and now an Honorary Member of your Society—(Read 5th April, 1859.)

The annual *Conversazione*, which now forms so important a feature in the proceedings of the Society, presented as usual a variety of attractions for the gratification of the assembly. The principal objects of interest exhibited on this occasion, consisted of a magnificent collection of Enamels, illustrating the Limoges, Oriental, Dresden, Chinese, Italian, and German manufactures: these were kindly contributed by Mr. Edw. Hailstone, of Horton Hall. A valuable selection of Engravings, showing specimens of the most celebrated Masters, and the styles of the different Schools of the art, were obligingly lent by Mr. Julian Marshall, of Cookridge Hall.

Some first class modern Paintings, by leading English and Foreign artists (loans from several Friends of the Institution), formed conspicuous objects of attraction. A series of Photographs of the principal Buildings in Lucknow and Cawnpore, with Manuscripts, Drawings, Weapons, and other Relics, from the same localities, were kindly contributed by Mrs. Hepworth Hill. These trophies were brought to this country by her son Lieutenant Hill, of the Royal Welsh Fusiliers, and from their intrinsic worth, as well as their association with the most exciting events of

the recent campaigns in India, were of course objects of unusual interest. In the same case with the foregoing, was exhibited a beautiful enamelled Tulwar, and embroidered Belt, taken at the storming of the Imaumbarra, by Lieut. H. H. Stansfeld, of the Queen's Indian Army.

In the early part of the evening Mr. Hailstone read a short Paper, descriptive of the history and process of Enamelling, illustrated by curious Specimens selected from his own splendid Collection. And Mr. Richard Reynolds gave a most instructive description of the newly discovered mode of making parchment from paper.

During the Christmas vacation, the Society was favoured with a Course of Seven Juvenile Lectures, which, from the interest and variety of the subjects, were numerously attended. These Lectures were—

One "On the Electric Telegraph,"—by Mr. R. P. Williams, Civil Engineer.

Two "On the Chemistry and Preparation of Food,"—by Mr. W. S. Ward, one of your Honorary Secretaries.

Four "On Light, the Eyes of Animals, and the Phenomena of Vision,"—by Mr. Nunnally, one of your Honorary Curators.

Early in the month of February, the Society was favoured with a Lecture "On the Siege of Lucknow," by Mr. Henry Martineau Greenhow, a Military Medical Officer of the Indian Army. The painful interest attached to this memorable Siege, and its brave Garrison, attracted a crowded audience, who, anxiously listened to the modest,

eloquent, and exciting narrative, of one who had shared in the perils and privations so heroically endured by the devoted defenders of the famous Residency.

A Lecture was also read to the Society, by Mr. John Crawford, late Governor of Singapore, "On China and its Trade," which contained an immense mass of information on the social and commercial prospects of that wonderful Empire, derived from personal experience and observation, during his long official residence in the country. This has also been printed at the request and expense of the Society, and distributed amongst the Members.

The Financial position of the Society is most satisfactory, notwithstanding the extraordinary demands made upon its Funds during the Summer, in anticipation of the meeting of the British Association. On that occasion your Council undertook the serious responsibility of sanctioning an expenditure which they considered absolutely necessary, in order that this Hall might be placed in a condition suitable for the reception of the numerous distinguished Visitors who were expected.

In making these arrangements, various incidental expenses were unavoidably incurred in the Museum department, in consequence of alterations which suggested themselves during their progress. This outlay, however, has been most opportunely met by the accession of fifty-six new Subscribers, and by the munificent contribution of the sum of Three Hundred and Seventy-nine Pounds Twelve Shillings and Elevenpence, from a large number of

the Members, and other generous Friends of your Society, who had subscribed to the Local Fund for the British Association, and who kindly transferred to us the surplus sums returnable to them from that Subscription.

The Council, although they have already officially thanked these Gentlemen individually, feel that they ought to avail themselves of this occasion to offer them collectively, their most grateful acknowledgments. By this considerate and public spirited contribution, your Society has been relieved from a serious embarrassment; and there remains at this day, after defraying all claims, a balance in your Honorary Treasurer's hands of £224 13s. 1d.

It may be mentioned here that the Vaults under the Hall, which have been for several years unoccupied, are now tenanted, and will henceforth bring an increase to the funds of the Society of £20 per annum.

In the Report of last year the Council referred to some considerable alterations which were then in progress in the Museum, in order to place it in a position befitting the increasing importance of this great Capital of the West Riding: not only as regards its scientific and literary character, but also the interest and value of the Specimens it contains. These projected improvements have been successfully carried out, as respects the general arrangements, though some of the minor details have still to be completed; and also the very laborious task of labelling the Specimens, which shall be proceeded with as rapidly as circumstances will allow. The anticipation of the Council,

that the *esprit de corps* of the Members would assist the Honorary Curators in providing additional cases in the Museum, has been fully realized. Besides the alterations previously mentioned, the table-cases for shells, crustacean and other invertebrate animals, have been materially improved, and the whole are now uniform.

The cost of these most useful and necessary additions has been no less than £118, and this amount has been defrayed by contributions from your Honorary Officers, and several other kind Friends of the Institution.

As the classification of the Specimens proceeded, it was ascertained that several important typical examples were required, to illustrate particular orders and genera, which specially exhibit the varied gradations of form and structure. To meet these difficulties, and to supply these serious wants, an extensive and urgent appeal was made by your zealous and indefatigable Sub-Curator Mr. Denny, to several Noblemen and Gentlemen of the West Riding. This appeal was met by a most generous response. By the large sum of £152 10s. thus obtained, and some splendid Donations of Specimens, your Museum has acquired more numerous and important additions than in any former Session. It is impossible to overestimate Mr. Denny's unceasing exertions, especially in this direction, and the Council feel assured that the Society will rejoice to hear that his health is again re-established.

Foremost amongst the Benefactors to the Museum, the Council must place Mr. George Lane Fox, of Bram-

ham Park. He has not only presented his entire Collection, of several hundred Specimens, in Natural History, Geology, Ethnology, and Archæology, but also the Cases in which they were displayed. By means of this noble donation, various departments in the Museum have been considerably augmented and improved. So great, indeed, has been the increase of Specimens during the past Session, that notwithstanding the additional space obtained by the erection of new cases, more accommodation is still required, for the useful display of the several Collections.

The Council are especially anxious to call the serious attention of the Meeting to this important subject. For it is now very evident that at no distant date, a further extension of these premises will be absolutely necessary, to meet the growing requirements of the Museum and Lecture Theatre.

Although a detailed list of all the Donations will be appended to this Report, the Council beg leave to call special attention to some of the more remarkable acquisitions in the different departments.

In Geology, some exceedingly valuable specimens of Saurian Remains, Fishes, fine Slabs of Ammonites, Belemnites, Pectens, and Ophiuræ, from the Lias and Marlstone of Yorkshire, were presented by Mr. George Lane Fox.

Two magnificent Slabs of Old Red Sandstone, containing the remains of no less than twenty specimens of Fossil Fish, from Dura Den, in Fifeshire, were presented by Mr. George Tatham.

A fine Series of Mammalian Remains, from the Oreston Caverns, were presented by the Rev. J. A. Rhodes.

An unusually large and beautiful specimen of a Fossil Shark's Tooth, probably from the Suffolk Crag, was presented by Mr. John Calvert.

A very fine specimen of *Zamia Gigas*, was presented by Mr. Wheatley Balme.

An extraordinary collection of Cetacean and other Mammalian Remains, from a Guano Deposit at San Filippi, in Chili, was presented by Mr. Mathias Shann of this town. The specimens from this Collection appear so strange and curious, that your Curators think it advisable to procure Photographic Pictures of some of the most remarkable, for the purpose of submitting them to the scientific examination of Professor Owen.

These generous Donations have added materially to the interest of this the most valuable department of your Museum.

The most important additions to the Mammalia, consist of the fine Skeleton of the Rein-Deer, presented by the Earl of Carlisle; the Rufous-necked Kangaroo, presented by the Right Hon. Viscount Palmerston; the Brazilian Porcupines, presented by the Earl of Effingham; the Horns of the Elk, from Mr. T. C. F. Gascoigne, of Parlington Hall; the Caracal, from Mr. John Spencer Stanhope; and a beautiful series of Marsupial Animals, presented by the Lord Bishop of Ripon and Dr. Disney Thorp.

In Exotic Ornithology also, additional specimens of the greatest value have been received: such as the remarkably fine Cassowary, presented by Lord Londesborough; the noble Ostrich, presented by Lord Feversham; and the fine Emu, presented by Lord Wharnccliffe. The Society will be glad to hear that these Donations have now completed the entire series of Genera composing the order of Struthiones.

The magnificent adult male specimen of the Great Condur, presented by Earl Fitzwilliam; that rare Bird the Wedged-tailed Eagle of Australia, presented by Mr. P. O'Callaghan; the Griffon Vulture, presented by Mr. W. Sykes Ward; and the Egyptian Vulture, presented by Major Waud, are most important accessions to your collection of Birds of Prey.

The singularly fine specimen of the Umbrella Bird, presented by Mr. John Gylby Uppleby; the superb Promerops, and pair of Crested Curassows, presented by his Grace the Archbishop of York; the Screamer, presented by Lord Wharnccliffe; the Grandala Cœlicolor, presented by Dr. Thorp; the Crowned Pigeon, presented by Sir Thomas Beckett, Bart.; and the Bald-headed Ibis, presented by Sir John Henry Lowther, Bart., are all equally important illustrations of Genera, which have been long desiderata in your Museum.

Your collection of British Birds has also been very considerably increased in interest during the Session. To Mr. W. Sykes Ward, the Society is much indebted for his

munificent donation of not less than thirty Specimens, which include several very rare species.

To Sir J. H. Lowther, Bart., also, for his present of a beautiful male Sea Eagle.

To Mr. Edmund Denison, for specimens of the Goshawk, Hoopoe, and Bee-eater.

To Mr. John Wilson, of Seacroft, for a pair of the Cream-coloured Courser and Great Black Woodpecker.

To Mr. George Lane Fox, for very fine specimens of the Eagle and Snowy Owls.

To Mr. J. W. Tottie, for an interesting group of Wilson's Petrel, with their Younglings.

To the Right Hon. M. T. Baines, for a fine pair of the Hooded Merganser.

To Sir Thomas Beckett, Bart., for a pair of the Great Crested Grebe, Red-necked Grebe, immature Goshawk, and Grey Plover.

To the Right Hon. Viscount Palmerston, for the Spur-winged Goose.

By these recent and numerous acquisitions, your Collection of native Birds is fast approaching to a complete series.

The Class Reptilia has been much enriched by the immense specimen of the Boa Constrictor, presented by Mr. H. C. M. Ingram, of Temple Newsam; the Iguana, by Mr. George Lane Fox; the fine specimen of Chameleon, by the Earl of Carlisle; and by several Batrachian and other Reptiles, by Mr. Edward Atkinson, of Jerusalem.

The Molluscous Animals have received a most important accession of five hundred specimens of Land Shells, from Jamaica and Barbadoes, presented by the Honourable Richard Hill, of Spanish Town. Several hundred Foreign Shells, from Mr. George Lane Fox. A valuable series of Shells, selected to illustrate generic forms, presented by the Earl of Dartmouth. Forty species of Land and Freshwater Shells, from the neighbourhood of Jerusalem, collected by your fellow-townsmen Mr. Edward Atkinson, who has besides contributed interesting collections of Insects, Arachnidæ and Crustacea, from Palestine.

The Council cannot in this department overlook the extraordinary services of your Honorary Curator, the Rev. Thomas Hincks. The Society is deeply indebted to this gentleman for the great zeal and labour he has bestowed upon the Collection of Invertebratæ. A portion of these interesting and curious creatures, the Mollusca, are now being arranged upon glass tablets, so as materially to facilitate their examination, and display the beauty of their appearance. This most useful work has been considerably undertaken by Mr. Hincks, who, from his scientific acquirements, and intimate acquaintance with this department of Zoology, is especially qualified to accomplish it in the most satisfactory manner.

During the Autumn, the British Association for the Advancement of Science held its Annual Meeting in Leeds. The Council of this Society, anxious to shew

every attention in their power to the illustrious strangers assembled on that occasion, threw open your Museum for public inspection during the week of the Meeting. It was a great source of gratification to find that the general arrangement, and the highly important specimens which your Museum contains, met not only with the approval, but elicited the admiration of those scientific gentlemen most competent to judge of its efficiency, amongst whom Professor Owen ought to be especially named.

The Council have much pleasure in reporting that the improvements in and additions to your Museum, are now beginning to be appreciated by the middle and working classes, whose edification and agreeable instruction such institutions are especially calculated to promote. Although the Hall was unavoidably closed for four months in the last summer, the receipts from penny admissions have already exceeded those of the whole of the preceding year by the sum of £7 18s., shewing an increase of 1368 Visitors. The Council are satisfied that as the benefits of such an Institution, and the great facility for its inspection, become more widely known, a continually increasing number of Visitors will resort to your Museum, for practical visual lessons on subjects of so much importance and interest to every individual, in every sphere of life, and which cannot be obtained elsewhere.

The contributions to the Library have not been so numerous as in the previous year : amongst them, however,

will be found several valuable publications, such as "The Proceedings of the Royal Irish Academy," "The Journal of the Royal Dublin Society," "The Memoirs of the Royal Geological Survey," "The Proceedings of the Academy of Sciences of Philadelphia," "The Inventorium Sepulchrale," "The Speeches of His Royal Highness the Prince Consort," "Lindsay's Works on the Coinage of the Heptarchy and of Scotland," "The Coast Surveys of the United States," "The Astronomical Observations at Harvard University in America," the work of your fellow townsman, Mr. William Boyne, on "The Tradesmen's Tokens of the Seventeenth Century," besides various Reports and Proceedings of Metropolitan and Provincial Societies, and Papers-presented by the Authors themselves. Amongst the latter, the Council were much gratified by a donation from one of their own body (Mr. Christopher Kemplay), of a Presentation Copy of his interesting "Essay on Comets," dedicated especially to themselves; together with additional copies to be sent by your Society to various kindred Institutions.

The rearrangements of the Library, and the preparation of a complete Catalogue of the Books, have been placed under the control of your Honorary Librarian, Dr. Heaton, whose knowledge of Bibliography especially qualifies him for this onerous undertaking. To his sedulous attention, and zealous exertions in this unobtrusive but most important work, the Society is already placed under great obligation.

When your Society was about to lose the valued services of your late respected President, Mr. James Garth Marshall, it was felt to be an object of the utmost importance, on the advent of the British Association, to replace him (if possible) by a successor whose high literary attainments and social station might command a universal recognition. Who could have united in himself, in a more remarkable degree, these essential requisites, than your gifted and distinguished Vicar? It was evident, therefore, that an application should be addressed to him in the first instance; and your Council were much gratified by the kind and considerate feeling evinced by Dr. Hook, when he consented to be proposed for election to the office of President. They feel then, that they would be guilty of gross neglect or ingratitude if they were not to avail themselves of this public opportunity, to acknowledge the great service he has conferred upon your Society during his too brief period of office, and to express, at the same time, their deep regret at the loss they are about to sustain by his unavoidable retirement from the President's chair. His revered name will ever be associated with the various educational institutions of this town, in which he has passed so many years of his active, benevolent, and useful life. Your Council cannot now bid him farewell, without expressing a hope that this Philosophical and Literary Society may continue to be favoured in future, as it has been hitherto, by the friendly encouragement, and occasional kind assistance of the Dean of Chichester.

From the Meteorological Register kept in the Hall the following abstract is derived, to show the monthly averages for the past year:—

1858.	Mean Temperature.	Mean Height of Barometer.	Total Amount of Rain in Inches.
January	39.8	30.115	0.740
February	37.3	29.920	0.565
March	42.8	29.754	0.380
April	47.6	29.804	2.235
May	52.4	29.752	1.445
June	63.3	29.987	2.475
July	59.8	29.774	1.150
August	62.1	29.815	2.220
September	59.1	29.840	2.750
October	50.3	29.826	3.630
November	41.9	29.814	0.840
December	41.2	29.698	1.500

The greatest degree of Heat, as indicated by the Thermometer, in the sun was 110°, on the 12th September; greatest in the shade, 90°, on the 15th June; the minimum, 20°, on the 2nd February.

The greatest Barometric pressure was on the 27th of February, 31.000 inches, the temperature of the Mercury being 57°. The least pressure was on 30th April, being 28.854; temperature of Mercury, 57°.

The greatest fall of rain was on the 7th April, being 0.910.

LEEDS PHILOSOPHICAL AND LITERARY SOCIETY.

FROM MAY 4th, 1858, TO MAY 13th, 1859.

	£.	s.	d.
Receipts.			
By Balance in the hands of the Sub-Curator		8	15 11
Subscription of 78 Members, at 4s. each	168	16	0
" of 70 Subscribers, at 31s. each	72	10	0
" of 20 Subscribers, at 5s. each	5	0	0
" of 21 New Subscribers, at 21s. each	44	11	0
" of 21 New Subscribers, at 8s. each	5	5	0
Arrears of Subscriptions	22	6	0
Rent of Geological Society	30	0	0
Rent of Lecture Room	33	10	0
Admissions to the Museum			3 12 0
Less Commission			3 12 0
Return Fund from British Association Subscribers.....		39	18 0
Special Fund for New Cases for Museum		279	12 11
Special Fund for Purchase of Specimens		118	0 0
		152	10 0
			£1020 13 10
Disbursements.			
To Balance due to the Treasurer		16	3 2
Insurance		8	12 6
Cas and Coals		10	9 0
Tradesmen's Bills:—		16	2 3
Bookbinder		8	8
Hopes, Printers		49	19 0
Renton, Jobbers		41	15 0
Hall, Printers		30	2 0
Nelson and Son		10	12 10
Harvey and Reynolds		1	4 6
Longley		1	1 0
Lamb and Welsh		6	15 0
Richards		0	13 11
Hay		0	6 5 1/2
Printing and Advertising:—			8 14 0
E. Baines and Son		18	11 0
C. Kemplay		3	4 0
Maxon		3	16 0
Rennell		2	10 0
J. Heaton and Son			7 5 0
Books and Stationery:—			3 17 8
J. Cross			5 0 0
Travelling Expenses to a Reader of a Paper		120	0 0
Sub-Curator's Salary		21	4 0
Porter's Salary		50	0 0
Testimonial to Sub-Curator		8	6 7
Purchase, and Carriage and Preservation of Specimens		1	13 4
Water Rate, £1. 5s.; Main Sewer Rate, 8s. 4d.		12	9 6
Expenses of Conversations		5	0 0
Less Receipts			7 9 6
Subscription to the Society of Arts		2	2 0
Tea and Coffee for General Meetings		5	7 5
Postage and Receipt Stamps		8	17 1
Sundry Expenses, Cleaning, &c.		24	3 1
Interest and Commission to Banker		2	8 0
Tradesmen's Bills for New Cases in Museum		118	0 0
Special Purchase of Specimens for Museum		152	10 0
Balance in Treasurer's hands		224	13 1
Balance in Sub-Curator's hands		8	7 4
			£1090 13 10

Audited and found correct.—
JNO. JOWITT, JUN.

Leeds, May 13th, 1859.

DONATIONS AND ADDITIONS

TO THE

SOCIETY'S MUSEUM.

*Those marked thus (*) are Honorary Members; thus (+) Members of this Society.*

MINERALOGY AND GEOLOGY.

An extensive and valuable Collection of
Organic Remains, consisting of several
very fine Slabs of Ammonites and Belem-
nites from the Lias of Whitby
Numerous polished Ammonites
Mass of *Avicula Cygnipes*, from the Lias...
Mass of *Pecten*, from the Lias
Two Specimens of the Briarean Pentac-
rinite
Inferior Jaw of *Teleosaurus*
Fragment of the Jaw of *Ichthyosaurus*
Longirostris
Paddle of *Ichthyosaurus*
Sections of Jaws and Teeth, numerous Verte-
bræ, Metacarpal, and Phalangeal Bones of
the *Ichthyosaurus*
Specimen of *Ichthyosaurus Communis*.....
Several Specimens of Fish, from the Lias...
Fine Slab of *Ophiuræ* and *Belemnites*, from
the Marlstone
Various Sponges, from the Chalk of Flam-
borough
Pterichthys and other Fish, from the Old
Red Sandstone
Very fine *Belemnite*, from the Bath Oolite..
Fine Specimens of *Obsidian*, from Ascension
Island, and various other Minerals, polish-
ed *Agates*, *Jaspers*, &c.
Various Specimens of ancient Marbles, from
Greece, Pompeii, Rome, &c.

*Mr. George Lane Fox, Bram-
ham Park.

- Specimens of Asphaltum and Virgin Sulphur, from the Shores of the Dead Sea...
 Rock Salt, from Sodom.....
 Red Earth, from the Pool of Gihon, Jerusalem, containing various Entomostracæ.. } Mr. Edward Atkinson, Jerusalem.
- Portion of a large Fossil Tree, found in excavating Morley Tunnel, 105 feet below the surface..... } †Mr. Gott, Armley House.
- Pelvis of a large Species of Deer, found in the Gravel, 15 feet below the surface, at Crown Point, Leeds } The Holbeck Mechanics' Institution.
- A series of Specimens of Clays and Gravel, to illustrate the Superficial Deposits in the Neighbourhood of Leeds } †Mr. T. P. Teale, F.L.S.
- Two magnificent Slabs of Old Red Sandstone, containing about 20 Specimens of Fossil Fish, from Dura Den, Fifeshire... } †Mr. George Tatham.
- Five Specimens of Fossil Fish, from the Old Red Sandstone of Caithness } Rev. Dr. Anderson, Newburgh, Fifeshire.
- A most interesting and valuable group of Specimens of the supposed Inflorescence of *Zamia gigas*, from the Lower Carboniferous Series, Scarborough } Mr. E. Wheatley Balme.
- Five Specimens of the Teeth of *Polyptichodon*, and a Specimen of Fossil Fruit, from the Oolite, Malton } Mr. W. C. Copperthwaite, the Lodge, Malton.
- Twenty-five Specimens of Shells, from the Red Crag of Orford in Suffolk } Purchased by the Society.
- Two very fine Specimens of Tin Ore with Actynolite, from St. Ives, Cornwall } The Directors of the Brea Consolidated Mining Company.
- Fine Specimens of Calamite, from the Gipton Wood Quarries, Leeds } Mr. W. Denton, Gipton.
- Specimens of *Zamia gigas*, shewing the Stem, Leaves, and supposed Inflorescence.....
 Portion of a Stem of a Cycad, from the Ironsand at Leighton Buzzard, Bedfordshire.....
 Specimen of Scarbroite..... } Mr. James Yates, F.G.S., London.

- A valuable Series of Organic Remains, from the Cavernous Fissures at Oreston, near Plymouth, consisting of Bones and Teeth of the Elephant, Rhinoceros, Great Cave Bear, Great Cave Tiger, Machairodus, Horse, Ass or Zebra, Deer, Ox, Sheep, Urus, and Swine, together with Masses of Stalagmite enclosing Bones
- †Rev. James Armitage Rhodes, Roundhay.
- Several large Bones of a Cetacean Animal; Three Skulls and Bones of the Elephant Seal; Bones of the Horse, Ox, Llama, and Dog, found in a deposit of Guano, at San Filippi, on the West Coast of Chili
- Mr. Matthias Shann.
- Specimens of Cryolite, from Greenland, and Aluminium, made from the above Mineral
- †Messrs. Harvey and Reynolds.
- An extraordinary large Tooth of a Shark (*Carcharias*), probably from the Suffolk Crag
- Mr. J. P. Calvert.

ZOOLOGY.

- A fine Specimen of that rare bird the Cassowary
- *Lord Londesborough, Grimston Park.
- A magnificent Adult Male Specimen of the Condur
- *Earl Fitzwilliam, Wentworth House.
- A valuable Collection of Shells.....
- The Earl of Dartmouth, Sandwell Park.
- A noble Male Specimen of the Ostrich ...
- *Lord Feversham, Duncombe Park.
- An immense Specimen of the Boa Constrictor
- Mr. H. C. M. Ingram, Temple Newsam.
- An entire Skeleton of the Reindeer; a very large Specimen of the Chameleon; and Specimen of the Patagonian Penguin ...
- The Earl of Carlisle.
- Fine Pair of Brazilian Porcupines
- The Earl of Effingham.
- Remarkably fine Specimen of the Umbrella Bird
- Mr. J. G. Uppley.
- Fine Specimens of the Screamer, Emu, and Pair of the Red Shank
- Lord Wharnccliffe, Wortley Hall.

- Beautiful Specimens of the Rufous-necked Kangaroo, Spur-winged Goose, and Night Heron } Lord Viscount Palmerston.
- Very fine Specimens of the Crowned Pigeon of India, Male and Female of the Great Crested Grebe, Red-necked Grebe, Immature Goshawk, and Grey Plover } Sir Thomas Beckett, Bart., Somerby Park.
- A valuable Collection of 500 Specimens of Land Shells, from Jamaica and Barbadoes, and Nests of the Trap-door Spider } The Hon. Richard Hill, Spanish Town, Jamaica.
- Very fine Specimens of the Adult Goshawk, Hoopoe, and Bee-eater } Mr. Edmund Denison, M.P., Doncaster.
- Specimens of the Three-toed Sloth, Pair of the Hooded Merganser, and Long-nosed Agoute } †The Rt. Hon. M.T. Baines, M.P.
- Splendid Adult Specimens of the Sea Eagle and Bald-headed Ibis } Sir J. H. Lowther, Bart., Swilington Hall.
- Fine Pair of Horns of the Elk, Specimen of the Black-breasted Bustard from Africa, Megapodius tumulus, and Tawny Owl... } Mr. T. C. F. Gascoigne, Parlington Hall.
- Pair of the Cream-coloured Courser, Great Black Woodpecker, Bulwer's Petrel, Pair of the Rock Manakin, and fine Pair of the Goliathus Beetle, from Western Africa... } Mr. John Wilson, Seacroft Hall.
- The Hammer-headed Shark, South American Gallinule, Little-ringed Plover, and Common Snipe (Male and Female and Young) } Mr. J. W. Childers, Cantley.
- Pair of the Dotterill, Spotted Red Shank, White's Thrush, Yellow-legged Sandpiper, and Wild Stock Dove..... } Sir J. V. B. Johnstone, Bart., Hackness Hall.
- Specimens of the Stripe-sided Wallaby, Derby's Wallaby, Pademelon Wallaby, Musk Deer from Java, and Striped Parameles..... } The Lord Bishop of Ripon.
- Specimens of the following rare Australian Animals:—Acrobates Pygmæus, Podabrus Crassicaudatus, Antechinus Unicolor, and Flavipes, Harpalotes Apicalis, Belideus Flaviventer, Phalangista Cookii, and Vulpina (Red and Grey Varieties) } Dr. D. L. Thorp, Cheltenham.
- Specimen of the Grandæa Cœlicolor, from Nepal..... }

- Striped *Dasyurus*, Pair of Red-breasted Merganser, Australian Penguin, Squirrel Monkey, Mummy of the Ibis, and several other Relics from Ancient Egypt } Mr. Joseph Dent, Ribston Hall.
- Pair of the Grey-headed Wagtail, Kentish Plover, Little Gallinule, Lesser Tern, Black-headed Gull, and the Black Guillemot in Three different States of Plumage } Mr. Daniel Gaskell, Lupset Hall.
- Five Humming Birds, with Nest, Spotted Gallinule, Pair of Blackbirds, Pair of Redwings, South American Woodpecker, Australian Cormorant, and Grey Shrike } Mr. T. W. V. Wentworth, Wentworth Castle.
- Fine Specimen of the Caracal, Male Egret, Raven, White-eyed Duck, and Golden-eyed Duck..... } Mr. J. Spencer Stanhope, Cannon Hall.
- Specimen of the Syrian Hyrax, several Bats from Jerusalem, 44 species of Land Shells, various Reptiles, a Collection of Insects and Arachnidæ from Jerusalem, several Crabs from Jericho and the Red Sea, and 38 Specimens of Crustacea and Echinoderma from the Bay of Akaba in the Red Sea } Mr. Edward Atkinson, Jerusalem.
- Specimen of the Alpine Hare, and Pair of the Turnstone } Mr. Charles Hardy, M.P., Bradford.
- Beautiful Specimen of *Madrepora Muricata* Mr. Robert Baker.
- Carapace of the Armadillo from Rio de Janeiro } Mr. W. H. Petty.
- Several Sponges from Australia, and a Specimen of *Pegasus Volans*, from Hobart Town } Mr. Frederick Blackett.
- Specimen of the Mongos from India †Mr. Henry Chorley.
- Beautiful Specimen of the Egyptian Vulture †Major Waud, Manston Hall.
- Splendid Specimen of the Superb *Promerops*, and fine Pair of the Crested Curasow ... } His Grace the Archbishop of York.
- Two Molar Teeth of the Asiatic Elephant, and a Portion of one which has been penetrated by a Ball } *Mr. George Lane Fox, Bramham Park.
- Horns of the Gazelle }
- Two Snouts of the Saw-fish..... }
- Skull of the Black Fox..... }
- Teeth of the Sperm Whale }

Two Jaws of the Shark	} *Mr. George Lane Fox, Bramham Park.
A Specimen of the <i>Diodon hystrix</i>	
Specimen of the Iguana	
Specimen Eagle Owl.....	
Snowy Owl, Turtle Dove.....	
Ring Ouzel, Eared Grebe.....	
Scarlet and Blue Maccau	
Pair of the Argus Pheasant	
Specimen of the Undulated Parroquet.....	
Eggs of the Ostrich and Golden Eagle ..	
Upwards of 300 Species of Shells	
Several fine Specimens of Zoophytes and Sponges	
Specimens of <i>Isis Hippuris</i> and other Corals	Rev. James Tripp, Spofforth.
Skeletons of the Woodcock, Water Gallinule, and Stormy Petrel	} Mr. Jonathan Dickinson.
Specimen of <i>Blatta gigantea</i>	†Mr. Somervill.
Specimen of the Bridled Guillemot	} Mr. W. H. Mold, Alderwasley, Derbyshire.
Jaws of the Skate.....	Mr. D. Ferguson, Redcar.
Specimen of the Sand Mole of the Cape ...	Mr. Oswald Brigg.
Jaws of the Shark	Mr. Moore.
Fine Specimen of the Wedgetailed Eagle from Australia	} †Mr. P. O'Callaghan, Cookridge Hall.
Specimen of <i>Blatta gigantea</i>	Mr. Croisdale.
Fine Specimen of the Griffon Vulture	} †Mr. W. S. Ward.
Specimen of the Great Bustard (female) ...	
Whiskered Tern	
Roseate Tern.....	
Gull-billed Tern	
Noddy Tern	
Sandwich Tern	
Little Tern	
Fork-tailed Petrel (male and female)	
Stormy Petrel (male, female, and young)...	
Black Redstart (male and female)	
Blue-throated Warbler (male and female)...	
Parrot Crossbill	
White-winged Crossbill.....	
Andalusian Hemipodes (male and female)...	
Common Wren (male, female, and nest) ...	
Golden-crested Wren (male, female, and nest)	
Red-headed Whistling Duck.....	
Gray Plover (male, female, and young) ...	
Gold-vented Thrush.....	

- Fine Pair of Wilson's Petrel and Young ... Mr. J. W. Tottie, London.
 Specimens of the Stilt Plover and Greater Shearwater..... } Mr. William Walker, Doncaster.
 A Human Skeleton †Mr. Arthur John Williams.

NUMISMATICS AND MISCELLANEOUS ANTIQUITIES, &c.

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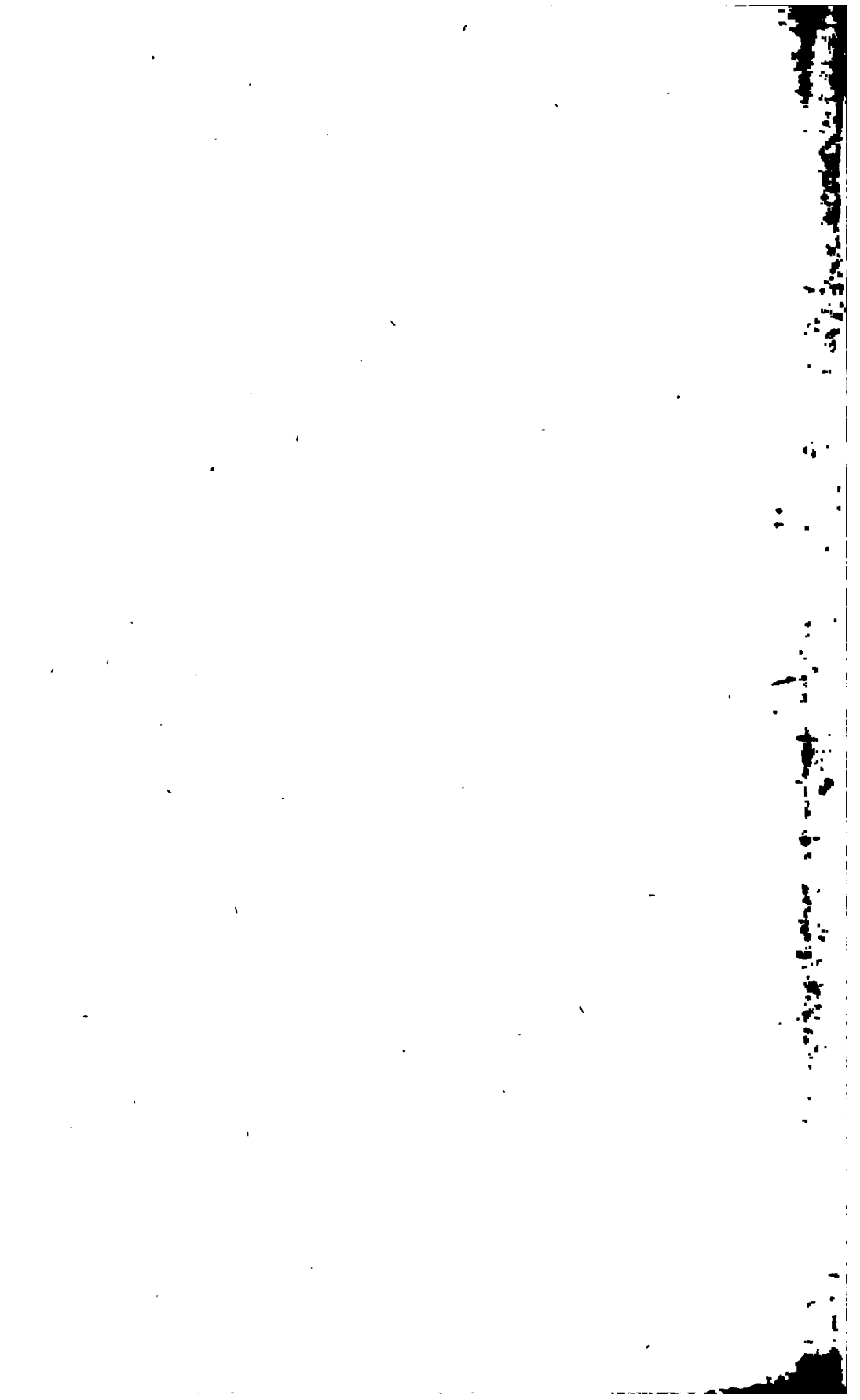
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The Boston North West Voice

Oct/60

LEEDS
PHILOSOPHICAL & LITERARY SOCIETY.

THE ANNUAL REPORT
FOR 1859-60.



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Boston Society of Natural History.

From

Received

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OF
THE COUNCIL
OF THE
LEEDS
PHILOSOPHICAL & LITERARY
SOCIETY,

AT THE CLOSE OF THE SESSION,

1859-60.

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REPORT OF THE COUNCIL,

AT THE CLOSE OF THE

FORTIETH SESSION,

MAY 1, 1860.

IN submitting the usual Annual Report, the Council beg to congratulate this Society on the successful completion of its Fortieth Anniversary. They have great satisfaction in stating that this Institution has never been in a more prosperous condition at any period since its first formation,—with reference either to its financial state, the continued increase in the number of its Members and Subscribers, the high character of the Papers read before the General Meetings, or the growing attractiveness and popularity of its Museum.

With regard to its financial position, it still continues to improve steadily, as will be shown by the fact that, after discharging all pecuniary claims upon us, there now remains in the hands of our Treasurer, Mr. Oxley, the sum of Three Hundred and Twenty-five Pounds, being

the largest balance placed to our credit since the year 1826, when a special subscription was raised for the reconstruction of this building. As respects the increase in the number of its Members and Subscribers, one new Ordinary Member, and forty Subscribers, have been elected during the Session.

The continued addition to our members will be best shown by a comparison of the numbers elected during the last three Sessions, with those of the three Sessions immediately preceding. Thus, from 1854 to 1857, forty-eight Members or Subscribers were admitted, while from 1858 to 1860, one hundred and forty-seven have been elected. This satisfactory advance in material prosperity is supposed to be mainly attributable to two causes, viz., the superior character of the Sessional Papers which have been read by gentlemen of the highest position in the Literary and Scientific world, and the increasing appreciation of the value of our fine Museum, and its claims upon public support.

The Council feel persuaded that in proportion to the efforts made for improved instruction in these important departments, so will our numbers steadily increase.

At an Extra-Sessional Meeting, September 26th, a Lecture was delivered by the Rev. Robert Walker, F.R.S., Reader in Experimental Philosophy in the University of Oxford, "On the Induction Coil, and the Electrical Discharge in Vacuo."

At the General Meetings, the following Papers were read :—

1. "On the Influence of the Imagination in Individual and Social Development,"—by the Rev. Alfred Barry, M.A., *President*—(Read Oct. 18th, 1859.)
2. "On Volcanoes and Earthquakes,"—by Sir J. F. W. Herschel, Bart., K.H., F.R.S., &c.—(Read by Mr. O'Callaghan, Nov. 1st, 1859.)
3. "On the Products and Prospects of England,"—by the Very Rev. the Dean of Chichester—(Read Nov. 15th, 1859.)
4. The *Conversazione*—(Dec. 6th, 1859.)
5. "On the Production and Propagation of Sound and Light, and the Analogies between Elementary, Acoustical, and Optical Phenomena,"—by William Hopkins, Esq., F.R.S., &c.—(Read Dec. 20th, 1859.)
6. "The Third Motion of the Earth, examined in connection with Astronomical, Geological, and Historical Evidences,"—by Capt. Drayson, Royal Artillery, Professor of Practical Astronomy at the Observatory, Woolwich—(Read Jan. 3rd, 1860.)
7. "On the Physical Condition of the People, in its bearing upon their Social and Moral Welfare,"—by the Right Rev. the Lord Bishop of Ripon—(Read Jan. 17th, 1860.) This paper has since been printed at the request and expense of the Society, for distribution amongst the Members.
8. "On our Political and Commercial Relations with China and Japan,"—by Laurence Oliphant, Esq., F.R.S., F.G.S., Secretary of Legation to Lord Elgin's Mission to China and Japan—(Read Feb. 7th, 1860.)
9. "On China, as Influenced by and Influencing Civilization,"—by Sir John Bowring, late Governor of Hong Kong—(Read Feb. 21st, 1860.)
10. "On the Properties of Steam and its application,"—by William Fairbairn, Esq., F.R.S.—(Read March 6th, 1860.)

11. "On the Metaphysical Theory of Volition, and certain Systems recently proposed on the Subject,"—by the Rev. F. G. Fleay, M.A.—(Read March 13th, 1860.)
12. "On the Horse: its History and its Uses for Military and other purposes,"—by William Crawford, Esq., F.R.S.—(Read March 20th, 1860.)
13. "On Modern Novelists, especially with reference to the works of Charles Dickens,"—by Thomas Marshall, Esq.—(Read April 3rd, 1860.)
14. "On the Recent Discoveries in Excavating in the Remains of the ancient town of Uriconium, near Shrewsbury,"—by Thomas Wright, Esq., M.A., F.S.A., &c.—(Read April 17th, 1860.)

The annual *Conversazione* took place in the month of December last, and, as heretofore, was highly successful both as regards the interest of the objects collected for exhibition, and the numerous attendance of Members and Friends. Amongst the various Contributions kindly lent for this occasion, we feel called upon to notice the following:—

A beautiful series of Engravings, sent to us by Mr. William Gott, representing the Mural decorations of an Ancient Villa in Rome, coloured in the School of Volpato. These Engravings were rendered doubly interesting from the circumstance that the original Paintings were utterly destroyed by exposure to the atmosphere, soon after their discovery in 1750. In this department of Art, not the least attractive or instructive was a valuable collection of rare Engravings of Portraits of celebrated Historical Personages, obligingly lent from the collection of Mr. Julian Marshall, of Cookridge Hall. These fine Portraits were illustrated with characteristic Autograph letters of all the

individuals thus represented. Mr. Emsley, of Burley House, near Otley, was so good as to contribute a splendid collection of specimens of Art workmanship from India, including Gold and Silver Bracelets, Necklaces, Brooches, and other personal Ornaments, some of which were Jewelled Trinkets of considerable value;—also exquisite Paintings on Ivory, such as Miniature Portraits of Royal Personages, and Pictures of Palaces, and other Buildings in Delhi and Lucknow, associated with the late rebellion. Besides these interesting relics, Mr. Emsley lent us on this occasion a series of Indian Weapons, and Embroidered Scarfs from Cashmere, and other objects of local interest from the seat of the late war. There were many more Contributions from Members and other Friends of the Society sent to us for exhibition on that occasion, which the Council take this public opportunity to acknowledge with grateful thanks, and regret that they cannot specify them here in more minute detail.

Two communications were read during the evening:— One “On the Geological and Archæological contents of the Craven Caves,” by Mr. Denny; and One “On a new method for rendering Textile Fabrics non-inflammable,” by Mr. Reynolds.

During the Christmas vacation, Three Juvenile Lectures were delivered:—

One “On the Scientific Construction and Use of the Rifle,”—
by Mr. W. S. Ward.

Two “On Elementary Chemistry,”—by Mr. Dunderdale.

The additions to the Museum have not been so numerous as in the preceding year, but after the unprecedented list of Donations recorded in our last Report, it was not to be expected that contributions would be presented so soon again to any great amount. The Council, notwithstanding, have great pleasure in calling your special attention to the following Donations.

Previous to his leaving Leeds, our late respected President, the Dean of Chichester, presented us with the munificent Donation of £50. Although, in his letter to the Honorary Secretary, Dr. Hook stated it to be his intention to place this gift unreservedly in the hands of the President and Council, to be disposed of by them in such manner as they might think best for the general interest of the Institution, it was generally understood that his individual wishes were that it should be expended in the purchase of specimens for the Museum. In accordance with these views a part of this sum has been already laid out in the purchase of some specimens which were much required, and the Council are now waiting only for other opportunities to devote the remaining portion to the laudable objects of the benevolent Donor.

In the department of Geology, an interesting series of Shells, and of Fossil Cycadeæ, from the Portland Oolite, presented by Mr. J. T. Leather, of Leventhorpe Hall, and numerous remains of Dinosaurian Reptiles and Fishes, from the Wealden of Sussex, presented by Captain

Brickenden, are valuable accessions; while the bones of the wolf, primeval dog, wild boar, &c., from the Limestone caves in Craven, are objects of the utmost local interest.

In the department of Zoology, the uncommonly fine specimen of Unau, or two-toed Sloth, purchased with part of the Dean of Chichester's fund, completes the species illustrating this peculiar genus of Edentate animals.

The singularly large and perfect skulls of the Tiger and Wild Boar of India, presented by one of your Honorary Secretaries, have supplied important desiderata in the Osteological Section, a department which the Council are most anxious to see much more extended, not only on account of the information which such specimens supply, as regards the structure of existing forms, but also as useful guides to a more correct knowledge of the structure of extinct animals.

The national contribution of American Birds sent to us from the Metropolitan (Smithsonian) Institution of Washington, has materially enriched our Ornithological collections from the New World, which we regret to say is still very incomplete.

The contribution of additional species of land Shells from Jerusalem, sent to us by our esteemed correspondent, Mr. Edward Atkinson; and the purchase of several highly important generic forms, also with a part of the Dean of Chichester's fund; which were carefully selected for us by our Honorary Curator, the Rev. Thomas Hincks, have

rendered our collection of Foreign Shells much more instructive. The Council, however, regret to report that our British Shells are still very defective, both as regards their number and state of preservation.

In the Ethnological and Archæological department, the most important acquisitions consist of an interesting collection of Idols, and votive relics from Rangoon, kindly purchased for us and presented by Mr. Chas. Bousfield. A beautiful silver-mounted Tulwar, with massive silver chain and belt, presented by Mr. John Rhodes; and 36 large bronze casts of medals of French Monarchs, presented by Mr. William Firth.

The Library continues to increase in a satisfactory manner. Amongst the most valuable contributions must be recorded the splendid present from our Honorary member, Mr. John Crawford, consisting of Twenty-four 4to. volumes of useful books, chiefly for reference, and Seventy-seven original Drawings, by Chinese artists. These represent various specimens in Natural History and Botany, and display not only the most wonderful accuracy, not only as regards the brilliant colouring, but the anatomical details of the Animals and Plants. They are really exquisite works of Art, and exhibit the singular fidelity of the Chinese in copying even nature itself so truthfully. The Lords Commissioners of the Admiralty have presented the Library with "The Report of the Astronomical experiments made by direction of the Government at the Cape of Good Hope." We have been

also presented by the Smithsonian Institution at Washington, with their "Contributions to Knowledge," and other American Publications, and from various Public, Scientific, and Literary Institutions, both abroad and at home, with their Reports and Transactions.

While thus recording these important accessions to the Museum, the Council cannot withhold the expression of their deep regret at the sad loss which the Society has sustained by the premature death of one of its most useful and disinterested friends, the late Mr. James Motley, who has been unfortunately included, with his poor wife and children, in a general massacre of Europeans, which took place in the island of Borneo, on this very day of the month last year.* He had collected a most valuable series of specimens, consisting of fossils, from the Coal-fields of South Borneo, recent shells, skins of animals, and various objects illustrating the natural history of this interesting locality. All these were intended for presentation to the Museum of his native town of Leeds, as notified by letter to Mr. Denny. But it is to be apprehended that the loss of this generous gift must be added to the greater affliction caused by the barbarous murder of the lamented donor.

The Council feel that it is due to the memory of the late Lord Londesborough, one of our most munificent friends, to record on this public occasion the serious loss which the Society has sustained by his sad removal from the list of our Honorary Members. This generous

* May 1st, 1859.

nobleman was always a zealous supporter of our Institution, and one of the most liberal contributors to the Museum.

The Council have much pleasure in noticing the great increase in the number of visiters to the Museum during the past year. This improvement had partially commenced in the preceding Session, when an increase of 1,368 penny visiters was recorded over the previous year. But the number who have availed themselves of this cheap mode of admission since our last Annual Meeting has been upwards of 13,500, producing, by pennies alone, the sum of £56 5s., being upwards of £23 more than has ever before been obtained from the same source. This general appreciation of the value of our Museum has more than realised the sanguine expectations of its patriotic founders, and offers the most gratifying recompense to those generous friends, by whose considerate liberality it is now placed in the foremost rank amongst all similar provincial Institutions in the kingdom. The Council feel assured that if additional space could be obtained for the adequate arrangement and display of the great accumulation of specimens already in the possession of the Society, the usefulness of this instructive collection would be more beneficially diffused, and the funds accruing from this source still more materially augmented.

Your Council having ascertained that various relics of early British and Roman Art, as also the bones of extinct

animals, had occasionally been dug up in a Cave called Dowkabottom, in the Craven district, in this County, considered that a further and more systematic exploration of this cave might be made with advantage under their own direction. In accordance with this resolution, application was made through our Vice-President, Mr. John Hope Shaw, to the proprietor of the cave, Mr. John Robert Tennant, of Kildwick Hall, for leave to make the required excavations, and for permission to take away and deposit in our Museum, any objects of Geological or Archæological interest that might be thus discovered. This request was at once most obligingly acceded to by Mr. Tennant.

On the 20th of September last, our Curator, Mr. Denny, proceeded to Dowkabottom, and, with the assistance of some labourers previously engaged by Mr. Shaw, in the course of a few days succeeded in making a vertical section of the unexplored portion of the cavern, down to the rock forming its floor. The important discoveries made by Mr. Denny have amply remunerated the Society for the trifling expense incurred on this occasion. But as they have been already detailed in a Paper read to you by Mr. Denny himself, at our last *Conversazione*, it is unnecessary to notice them further, except to state that the peculiar Canine Skulls, and portions of a Human Cranium there found under extraordinary circumstances, have excited much interest and curiosity amongst the most distinguished Geologists of the day.

The want of additional accommodation for the various purposes of the Society, is becoming annually more and more urgent, and the Council trust that before another anniversary, some decided measures will have been taken to provide for the growing requirements of the Institution.

Three different plans have been suggested to accomplish an object of such paramount importance. The first is to enlarge the present building by raising the roof, and extending the premises backwards. By these means 450 square feet could be added to our present Lecture Theatre, 830 square feet to the Museum, besides 320 feet of New Galleries, and 270 square feet to the Library. These alterations might be effected at a comparatively moderate cost. But the Lecture Theatre would still remain in its present noisy and disagreeable position, and the pressing wants of the Institution would be undoubtedly only temporarily relieved by this arrangement.

The next plan is to purchase the adjoining warehouse, and unite it with our present building. The purchase of these premises would be a most desirable object to accomplish, as the Society would thus obtain all the accommodation it can possibly require for many years to come. We might then have a quiet Lecture Theatre, and ample space for our fine Museum, Library, Council Room, Laboratory, Refreshment, and other rooms.

The third plan is to unite with the School of Art, and the Mechanics' Institution, in the erection of one great

building for the joint accommodation of the three Institutions. The purchase of a suitable site, and the erection for these great objects, of such an edifice as would be creditable to the Metropolis of the West Riding of Yorkshire, could only be accomplished by a forcible appeal to the patriotism of your fellow-townsmen, and a large demand upon the liberality of the friends of the three Institutions.

Whichever of these plans may ultimately be adopted, or whatever may be finally decided upon as regards this Institution, the Council confidently place the claims and future prospects of a Society which has now completed its Fortieth year of usefulness, in the hands of those steadfast friends of Science and Literature, and public benefactors, who not only founded it securely, but have either by themselves or their descendants, on many subsequent occasions so nobly contributed to its support.

From the Meteorological Register kept in the Hall the following abstract is derived, to show the monthly averages for the past year:—

1889.	Mean Temperature.	Mean Height of Barometer.	Total Amount of Rain in Inches.
January	42.5	29.924	1.135
February	42.9	29.723	1.110
March	46.0	29.707	2.160
April	45.1	29.632	4.000
May	54.9	29.911	0.725
June	59.1	29.796	1.995
July	64.9	29.939	3.620
August	62.2	29.787	3.370
September	55.1	29.650	3.500
October	50.3	29.519	2.190
November	42.3	29.788	1.480
December	35.8	29.610	1.425

The greatest degree of Heat, as indicated by the Thermometer, in the sun was 111°, on the 17th July; greatest in the shade 90°, on the 11th July; the minimum, 14°, on the 19th December.

The greatest Barometric pressure was on the 13th of May, 31.500 inches, the temperature of the Mercury being 57°. The least pressure was on the 1st of November, being 28.370, temperature of Mercury, 59°.

The greatest fall of Rain was on the 7th of August, being 1.350.

LEEDS PHILOSOPHICAL AND LITERARY SOCIETY.

FROM MAY 13, 1859, TO MAY 1, 1860.

	£.	s.	d.
Receipts.			
By Balance in Treasurer's hands	254	13	1
ditto Sub-Curator's hands	8	7	4
Subscription of 74 Members, at 4s. each	165	8	0
76 Subscribers, at 2s. each	79	16	0
34 Subscribers, at 5s. each	8	10	0
Subscription and Deposit of 1 New Member	5	5	0
25 New Subscribers, at 2s. each	25	5	0
12 " " "	2	0	0
Arrears of Subscriptions	3	0	0
Rent of Geological Society	18	7	0
Rent of Cellars under the Hall	20	0	0
Rent of Lecture-room	20	0	0
Admissions to the Museum	11	11	0
Less Commission	56	5	0
	4	10	9
The Dean of Chichester's Donation	51	15	0
Fines for Council Meetings	50	0	0
Interest from Banker	1	11	6
	3	11	0
	£687	19	11
Disbursements.			
To Insurance			
Gas and Coke	5	11	4
Cools	8	1	1
Tradesmen's Bills	8	14	5
Messrs. Hopes, Painters	5	11	4
Remon, Joiner	6	10	0
Hall, Plumber	11	17	0
Nelson and Son	3	1	9
Barrow, for Brushes, &c.	1	16	3
Harvey and Reynolds	3	0	0
Woolley and Son	4	10	0
Dewley and Co.	1	6	6
Mosaulay	1	12	6
Hay	0	7	11
Davis	0	10	0
Lobley and Son	1	5	0
Messrs. Dawson, for repairs in cellars	1	0	0
	41	14	3
Printing and Advertising —Messrs. E. Baines and Son	1	10	6
C. Kemplay	1	10	0
Heston and Son	12	7	0
H. W. Walker	4	0	0
F. Hobben	1	1	0
	20	16	6
Books and Stationery —Heston and Son	2	6	0
J. Cross	3	7	10
J. Tainfield	1	8	9
Dr. Henderson	0	10	6
	7	13	1
Travelling Expenses to a Reader of a Paper	5	0	0
Sub-Curator's Salary	120	0	0
Porter's Salary	21	0	0
Water Rate, and Main Sewer Rate	1	6	3
Expenses of Conversations	14	6	5
Less Receipts	3	10	0
	10	16	5
Expenses of Annual Meeting Conversations	2	12	4
Subscription to Society of Arts	2	3	0
Tea and Coffee, for General Meetings	6	1	1
Postage and Postage Stamps	6	0	11
Purchase, Carriage, and Preservation of Specimens	16	19	4
Purchase of Specimens from Dr. Hook's Fund	24	0	0
Expense of Excavating Caves in Craven	8	4	7
Sundry Expenses, Cleaning, &c.	24	14	7
Banker's Commission	0	18	0
Balance in Banker's hands	398	3	4
" Sub-Curator's hands	7	11	3
	£687	19	11

DONATIONS AND ADDITIONS

TO THE

SOCIETY'S MUSEUM.

Those marked thus () are Honorary Members; thus (+) Members of this Society.*

MINERALOGY AND GEOLOGY.

- | | | |
|--|----|--|
| A Collection of Organic Remains from the Portland Beds, consisting of fine Specimens of Ammonites, <i>Zamiæ</i> , from the dirt bed; Casts of <i>Cerithium</i> and Fossil Wood | } | Mr. J. Towlerton Leather,
Leventhorpe Hall. |
| A Collection of Minerals from the Bay of Fundy, Nova Scotia | } | Miss Frost. |
| Two Polished Specimens of Granite, from Aberdeen | }† | Mr. O'Callaghan. |
| Several Geological Specimens from the Isle of Wight | } | Mr. Edward Butler. |
| Several Geological Specimens from the Yorkshire Coal Field | } | Mr. John Dixon. |
| Geological Specimens from the Kelloways, Rock, and Mountain Limestone of Yorkshire..... | } | Rev. John Holroyd. |
| Specimens of <i>Fusus longævus</i> from the London Clay; Isle of Wight Section of do. 17 Samples of the Coloured Sands from Alum Bay. A Glass Vessel containing the Coloured Sand so arranged as to represent the Needles, Isle of Wight | }† | Mr. W. S. Ayrtton, F.S.A. |
| Head of an Ichthyosaurus, from the Lias of Leicestershire | }† | Mr. William Clayton. |
| A Series of Bones of Reptiles, Scales and Palatal Teeth of <i>Lepidotus</i> from the Wealden of Sussex..... | }† | Captain Breckerton. |
| Specimen of Moss Copper..... | | Mr. H. C. Sorby, F.R.S. |

ZOOLOGY.

- | | | |
|---|----|------------------------------------|
| Specimen of the Rice Bird, or Java Sparrow | } | Mr. John Darlington, Shipley Hall. |
| A very fine Specimen of the Unau or two-toed Sloth, (<i>Cholæpus didactylus</i>); a Selection of Foreign Shells, to illustrate Generic forms..... | }* | The Dean of Chichester. |
| Specimens of a Species of Annelide, used as an article of Food by the Chinese ... | } | Mr. Edward Brown. |
| Skull of the Dolphin (<i>Delphinus delphis</i>) | | Dr. Hobson. |

- Eleven North American Birds, viz., the American White Pelican (*Pelecanus Erythrorhynchus*), the Brown Pelican (*Pelecanus fuscus*), the Booby (*Sula fusca*), the Egret (*Garzetta candidissima*), Green Heron (*Butorides virescens*), American Crane (*Grus Canadensis*), American Bittern (*Botaurus lentiginosus*), Red-tailed Hawk, male and female (*Buteo borealis*), Hudson's Bay Harrier (*Circus Hudsonus*), Musk Duck (*Anas moschatus*)..... } The Smithsonian Institution, Washington.
- Fourteen Birds from Australia † Sir George Goodman.
- A Series of Land Shells from Mount Carmel and Jerusalem } Mr. Edward Atkinson, Jerusalem.
- Very fine Specimen of the Grey-legged Goose (*Anser ferus*), Pair of American Grey Squirrels, fine Skeleton of the Eagle Owl (*Bubo maximus*) } Purchased by the Society.
- Fine Specimens of the Hoatzin (*Opisthocomus cristatus*), and Pileated Guan (*Penelope pileata*) } Purchased by the Society.
- Specimens of the Skin of the Walrus (*Trichechus rosmarus*), very fine Skulls of the Tiger (*Felis tigris*), and Wild Boar of India (*Sus scrofa*) } † Mr. O'Callaghan.
- Specimen of the Italian Green Lizard..... Mr. Child.
- Specimen of the Silver Grey Fox (*Vulpes cinereo-argentatus*) of South Africa } Purchased by the Society.

NUMISMATICS AND MISCELLANEOUS ANTIQUITIES.

- Three Querns from Adel, one do. from Gipton, and one do. from Barwick-in-Elmet } Mr. James Wardell.
- A Third Brass Coin of Constans Mr. T. G. Denny.
- Fragments of Roman Pottery, a Roman Tile, Tesselated Pavement, and Painted Stucco from Aldborough; three Pieces of Pottery from Agrigentium, Fragment of a British Cinerary Urn, found near Pickering, several Encaustic Tiles from the Abbeys of Fountains and Kirkstall, Stone Adze Head dug up near St. Louis, five Stone Arrow Heads from the Mississippi Valley, Remains of a Dagger Blade, found in cutting a drain at Chapel-Allerton, Spur ploughed up at Knapton, Plug Bayonet, curiously engraved, Ancient Pistol-lock-apparatus for procuring a light..... } Mr. John Dixon.
- Russian Copper Coins picked up in the Streets of Sebastopol } Dr. Hobson.

- Thirty-six large Bronze Casts of Medals of
Monarchs of France from Clovis to
Henry IV. } †Mr. William Firth.
- A Bronze Saxon Ornament found near Ripon Mr. James Wardell.
- A Bronze Celt found in Swaffham Fen,
Cambridgeshire ... } Rev. Greville S. Chester,
Sheffield.

MISCELLANEOUS ARTICLES.

- A portion of an Ancient Chain Cable from
the Tees, supposed to have belonged to
the Spanish Armada, at which part of
the coast one of the Spanish Ships was
wrecked } Mr. W. Marshall, F.R.S.E.,
York.
- A Pair of Polish Boots Mr. J. Dixon.
- A Chinese Lady's Shoe Dr. Hobson.
- Very beautiful Tulwar from India, with
chain belt, and scabbard, richly orna-
mented with silver } †Mr. John Rhodes.
- Three Alabaster Deities, and 24 Bronze
Votive offerings from the sacred Temples
at Rangoon, in Burmah } †Mr. Charles Bousfield.

LIBRARY.

- Report on the Teneriffe Astronomical
Experiments of 1856, addressed to the
Lords of the Admiralty: 4to..... } The Lords Commissioners of
the Admiralty.
- Quarterly Journal of the Chemical Society,
Nos. XLV. to XLVIII. } The Chemical Society.
- The Journal of the Royal Dublin Society,
Nos. XII, XIII, and XIV. } The Royal Dublin Society.
- Catalogue of a Collection of Historical
and Topographical Works, Civil War
Tracts, &c., in the Library of Edward
Hailstone, Esq., Horton Hall } Mr. Edw. Hailstone, F.S.A.
- The Illinois Geological Survey, Abstract
of a Report on Illinois Coals, by J. G.
Norwood, M.D. Reports of Illinois
Normal University for 1857, 1858..... } The Illinois University.
- Catalogue of Fossils found in the British
Isles, forming the private collection of
Professor Tennant } Professor Tennant, London.
- The Smithsonian Contributions to Know-
ledge: vol. 10, 4to. Reports of the
Regents of the Smithsonian Institution,
1857. Defence of Dr. Gould, by the
Scientific Council of the Dudley Obser-
vatory. Reply to the Statement of the
Dudley Observatory, by B. A. Gould ... } The Smithsonian Institution,
Washington.

- Manual of Meteorology, by Sir J. F. W. Herschel, Bart. Remarks on Colour Blindness, by Sir J. F. W. Herschel, Bart. On the action of the Solar Spectrum upon certain compounds of Silver, by Sir J. F. W. Herschel, Bart. ... } Mr. O'Callaghan.
- Proceedings of the Zoological Society of London, for 1858 and 1859 } The Zoological Society of London.
- Ofversigt af Kongl Vetenskaps Akademiens Forhandlingar, 1857 } The Academy of Sciences of Stockholm.
- Proceedings of the Literary and Philosophical Society of Liverpool. No. 13. ... } The Literary and Philosophical Society of Liverpool.
- Seventy-seven Original Drawings of Quadrupeds, Birds, Reptiles, Fish, and Plants, by Chinese Artists } Mr. John Crawford, F.R.S., London.
- Proceedings of the Royal Institution of Great Britain } The Royal Institution of Great Britain.
- Twenty-sixth Annual Report of the Royal Cornwall Polytechnic Society for 1858... } The Royal Cornwall Polytechnic Society.
- Turner's Account of an Embassy to Thibet: 4to. Knolle's History of the Turks: fol. Histoire Naturelle de Pline: 12 vols., 4to. Du Halde's China: folio. Orme's Fragments of the Mogul Empire: 4to. Harris's Voyages: 4 vols., fol. Bibliothéque Orientale: folio. Über die Verschiedenheit des Menschlichen Sprachbaues, von Wilhelm von Humboldt: 4 vols., 4to. } *Mr. John Crawford, F.R.S., London.
- Monthly Notices of the Astronomical Society: vol. 20, No. 23. Instructions and Chart for Observations of Mars in right ascension, at the opposition of 1860, by G. B. Airy, Astronomer Royal } The Royal Astronomical Society.
- Annual Report of the Yorkshire Philosophical Society for 1859 } The Yorkshire Philosophical Society.
- Twenty-eighth Annual Report of the Scarborough Philosophical Society } The Scarborough Philosophical Society.
- Total Solar Eclipse, 1860, July 18. Revised path of the Shadow, &c..... } James Glaisher, Esq., London.
- Proceedings of the Historic Society of Lancashire and Cheshire: vol. 11 } The Historic Society of Lancashire and Cheshire.
- Traditions of De-Coo-Dah, and Antiquarian researches amongst the Mound builders in America, by Wm. Pidgeon: 8vo. } Mr. John Holmes.
- Quarterly Journal of the Geological Society. Nos. 58 to 60 } The Geological Society of London.

LIST

OF

OFFICERS, COUNCIL, AND MEMBERS.

OFFICERS.

President	Rev. Alfred Barry, M.A.
Vice-Presidents	{ Rev. H. R. Reynolds, B.A.
	{ T. P. Teale, F.L.S.
Treasurer	Henry Oxley.
Honorary Secretaries	{ Wm. Sykes Ward, F.C.S.
	{ P. O'Callaghan, B.A.
Honorary Curator in Geology	J. G. Marshall, F.G.S.
Honorary Curators in Zoology	{ T. P. Teale, F.L.S.
	{ Rev. Thomas Hincks, B.A.
Honorary Curator in Antiquities and Works of Art, &c.	} Thomas Nunneley.
Honorary Librarian	Dr. Heaton.

The above Officers, and the following Gentlemen, compose the

COUNCIL.

Rev. James Atlay, D.D. William Blanshard. Charles Chadwick, M.D. Samuel Hey. Joshua Ingham Ikin.		Christopher Kemplay. Thomas Marshall. George Morley. John Hope Shaw. George Pyemont Smith, M.D.
Sub-Curator		Henry Denny, A.L.S.

PROPRIETARY MEMBERS.

W. Aldam, <i>Frickley Hall, Doncaster.</i> William James Armitage. Robert Arthington, Jun. John William Atkinson. Edward Baines, M.P. James C. Battye, <i>Yeadon.</i> William Beckett, (2 shares.)		Samuel Birchall. James Brown, M.P., (2 shares.) Samuel James Brown, (2 shares.) John Burton. John Calverley, <i>Oulton</i> , (2 shares.) Thomas Charlesworth. Henry Chorley.
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Samuel Clapham (2 shares.)
 John Cudworth.
 William Beckett Denison.
 Thomas Townend Dibb.
 Edwin Eddison.
 Robert John Ellershaw.
 John Ellershaw, Jun.
 *Rev. John Ely.
 Christopher Empson.
 Robert Lawson Ford.
 Samuel Greame Fenton, *Belfast*.
 *William Gatliff.
 Thomas Willington George.
 John Goodman.
 John Gott, (2 shares.)
 William Gott, (4 shares.)
 William Ewart Gott.
 William Hey.
 John Deakin Heaton, M.D.
 James Holdforth.
 Joseph Holt.
 Abraham Horsfall.
 William Ingham.
 John Jowitt.
 John Jowitt, Jun.
 William Glover Joy.
 Thomas John Kinnear.
 Frederick John Leather.

John Darnton Luccock.
 Darnton Lupton,
 Arthur Lupton.
 Francis Lupton.
 Charles Makins.
 *Jno. Marshall, *Halsteads*, (2 shares.)
 J. G. Marshall, F.G.S., (2 shares.)
 Henry Cowper Marshall.
 Arthur Marshall, F.G.S.
 Reginald Dykes Marshall.
 George Noble.
 Thomas Nunneley.
 Rev. James Armitage Rhodes, M.A.,
Roundhay.
 John Rhodes.
 Rev. Michael Thomas Sadler.
 John Shepherd.
 Henry Stooks Smith.
 John Smith, *Burley*.
 George Tatham.
 Thomas Fridgin Teale, F.L.S.
 Thomas Greenwood Teale.
 *Thomas W. Tottie.
 William Sykes Ward, F.C.S.
 Edward Walker.
 *Peter Willans.
 Richard Bassett Wilson.
 Robert Horatio Wood.

* Members deceased, whose shares have not been transferred.

ORDINARY MEMBERS.

Rev. Charles John Armistead, M.A.,
 F.S.A.
 Wilson Armistead.
 John Atkinson.
 Rev. James Atlay, D.D.
 William Scrope Ayrtton, F.S.A.
 Frederick Baines.
 Rev. Alfred Barry, M.A.
 Joseph Bateson.

G. S. Beecroft, M.P.
 William Blanshard.
 Matthew Bloome.
 John Botterill.
 Edward Bower.
 Rev. T. S. Bowers, M.A.
 Cuthbert Brodrick.
 Joseph Buckton.
 John Bulmer.

J. O. Butler.
 William Cadman.
 Charles Chadwick, M.D.
 William Chadwick.
 John Peele Clapham.
 Rev. C. H. Collier.
 William Crawford.
 John Crofts.
 Isaiah Dixon.
 G. E. Donisthorp.
 Thomas S. England.
 Sir Peter Fairbairn.
 William Firth.
 Joseph Prince Garlick.
 Thomas Hall.
 John Hamer.
 John Hargrave.
 James Hargrave.
 W. W. Hewitson.
 E. W. Hewitt.
 Samuel Hey.
 Rev. Thomas Hincks, B.A.
 W. B. Holdsworth.
 Joshua Ingham Ikin.
 Christopher Kemplay.
 James Kitson.
 John Wignall Leather.
 Charles C. MacCarthy.
 Charles Gascoigne Maclea.
 John Manning.
 Thomas Marshall.
 Samuel Dickinson Martin.
 George Morley.

George Nelson.
 Henry Nelson.
 W. N. Nicholson.
 Thomas Nussey.
 Patrick O'Callaghan, B.A.
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The Boston Nat Hist Society
for the Leeds Phil^l Socy
May 3/62

LEEDS
PHILOSOPHICAL & LITERARY SOCIETY.

THE ANNUAL REPORT
FOR 1860-61.



Se Let.

Boston Society of Natural History.

From

Received

FORTY-FIRST REPORT
OF
THE COUNCIL
OF THE
LEEDS
PHILOSOPHICAL AND LITERARY
SOCIETY,
AT THE CLOSE OF THE SESSION,
1860-61,

Read at the Annual Meeting, May 7th, 1861.

LEEDS:
PRINTED BY C. KEMPLAY, INTELLIGENCER OFFICE.
MDCCLXI.

IMPORTANT RULE
RESPECTING THE PROPERTY OF THE SOCIETY,

PASSED OCTOBER 8th, 1860.

That in the event of the dissolution of this Society, its Property and Effects, whether real or personal, shall not be disposed of for the personal benefit of the Members, but shall be appropriated in such manner for the advancement of Science, Literature, or Art, in the town of Leeds, as shall be determined by a majority of the Members, at an Extraordinary Meeting to be convened for that purpose. But that no dissolution of the Society shall take place without the consent, in writing, of a majority holding not less than two-thirds of the Proprietary Shares.

FORM OF A BEQUEST TO THE SOCIETY.

Every person desirous of bequeathing to the Society any Sum of Money, Specimens, Books, Instruments, or other Property, is requested to make use of the following Form:—

I give and bequeath to the Trustees for the time being, of the Society established at Leeds, called "THE LEEDS PHILOSOPHICAL AND LITERARY SOCIETY," for the use of the said Society, the sum of _____ to be paid out of such part of my personal Estate as I may legally charge therewith. [Or here enumerate the Effects or Property intended to be bequeathed.] And I direct that the Receipt of the Treasurer of the said Society for the time being, shall be an effectual discharge to my Executors for the said Legacy.

REPORT OF THE COUNCIL

AT THE CLOSE OF THE

FORTY-FIRST SESSION,

MAY 1, 1861.

Your Council have great pleasure in reporting the steadily advancing prosperity of this Institution in every department. Since the conclusion of the last Session their attention has been occupied in considering and carrying into effect measures of the utmost importance, in reference to its future stability and welfare.

It has of late years been generally regretted that the property of the Society had not been placed upon a more satisfactory basis, and especially that our fine Museum had not been more securely localized, and protected from the possible contingency of future dispersion. Your Council have reason to suspect that the generous intentions of some of our patriotic friends may have been seriously influenced by such considerations. Indeed it seemed unreasonable to suppose that the donations or bequests of our fellow-citizens should not have been occasionally with-

held by the reflection that such contributions could only serve ultimately to enhance the value of the property of the original share-holders.

These obstructions to the advancement and extension of our Institution could only be removed by a fundamental change in its constitutions and laws. Your Council therefore resolved to bring this affair before the Members of the Society. Accordingly a Special General Meeting was convened on the 24th of September last, when the following resolution was submitted, and carried, viz. :—

“It is desirable that, in the event of the dissolution of this Society, its property and effects, whether real or personal, shall not be disposed of for the personal benefit of the members; but shall be appropriated in such manner for the advancement of Science, Literature, or Art, in the town of Leeds, as shall be determined by a majority of the Members, at an Extraordinary Meeting to be convened for that purpose. But that no dissolution of the Society shall take place without the consent, in writing, of a majority holding not less than two-thirds of the Proprietary Shares. This rule to be binding on all Proprietary and Ordinary Members who may be admitted at this or any future Meeting; and the present Proprietary and Ordinary Members also to be requested to sign an engagement conformably thereto.”

By the adoption of this important resolution, your valuable Museum, with the property and effects of this Society, have now become, in fact, a Public Institution, securely and permanently localized in the borough of Leeds.

The attention of this Society was earnestly called, in the last Annual Report, to the urgent necessity of

providing increased accommodation for the Museum, Lecture Theatre, and Library. This engrossing subject has continually occupied the thoughts of your Council. During the recess several Meetings were held to consider the question in all its aspects, and it was ultimately determined that it would be exceedingly advantageous to this institution, (especially considering its admirable and central situation) to purchase, if possible, the adjoining warehouse, and add it to the present building. By this enlargement of our premises, an architectural uniformity of the exterior, splendid apartments for our Museum and Library, and a spacious and undisturbed Lecture Theatre could be obtained ; while, by the alteration of the present Lecture Room, a convenient entrance from Park Row, and a respectable vestibule and stair-case, with many other minor but essential accommodations, could be provided for. This would afford nearly as complete and useful a suite of apartments for all the requirements of the Society as could be procured by the erection of a new building, and at much less expense and inconvenience. These important matters were likewise submitted to a Special General Meeting, and it was then determined to make an effort to raise the funds necessary to carry the suggestions of your Council into effect. It was accordingly resolved, at the Special General Meeting,

1. "That the Proprietary Capital of the Leeds Philosophical and Literary Society be increased by an additional sum of £10,000, to be raised by voluntary contributions, and by shares of £50.

Each holder of one or more of such shares to be constituted a Proprietary Member, with similar rights and privileges as the Old Proprietary Members, with the exception of his being required to pay One Guinea annually in virtue of each such share of which he shall avail himself of the privileges."

It was subsequently resolved, at the same General Meeting,

2. "That a new order of Ordinary Members be instituted, who shall hold a transferable share of £20, and pay the sum of One Guinea annually, subject to the condition of the above resolution."

The Council beg leave to congratulate this Meeting upon the successful operation of these great changes in the organization of the Society.

In order to carry out the proposed arrangements, a Committee was elected (of which Mr. Wm. Gott was appointed Chairman) composed of the Members of the Council, and the following gentlemen associated with them, viz. :—Mr. Arthur Lupton, Mr. John Rhodes, Mr. T. T. Dibb, and Mr. William Best. These gentlemen undertook the onerous and sometimes disagreeable duty of soliciting subscriptions to the required fund, either by written or personal application, and it is only due to them to state that, owing to their indefatigable exertions, the munificent sum of £7132. 5s. has been already contributed, as will be seen from the annexed subscription list.

The Council, however, regret to inform this Meeting, that, owing to a very considerable discrepancy between the estimates of the architect and the tenders of the contractors, even this large sum is now found insufficient for the

completion of the approved plans, and the internal fittings. They have been therefore again reluctantly compelled to come before another General Meeting of the Members of the Society, and ask for their instruction and authority for further proceeding in this dilemma. Accordingly a Special General Meeting was held on the 8th of April, when it was resolved, That the original approved plans should still be carried out if possible, and that the extra sum now discovered to be required for that purpose should be raised by further voluntary contributions, not to be paid before January, 1862, and then only in the event of the sum of £1500 being obtained by the 1st July.

The additional amount thus obtained is now £1220, as shewn in the new supplementary subscription list; and the Council anxiously hope that the small deficit, which still remains, may be raised before the 1st of July.*

We have thus advanced in this important undertaking far beyond the anticipations of the most sanguine friends of the Society, and at a time when numerous other appeals are urgently pressed upon public sympathy and support, and we confidently trust that the noble exertions which have been made for securing the future stability and prosperity of the oldest Philosophical Society in the county of York, will not be allowed to fail for want of this comparatively small sum; for we feel convinced that if this great project is not carried out now, when it

* This anticipation, the Council are happy to state, has been realized.
June 26th, 1861.

has been so prosperously brought to this point, it will be in vain to anticipate a more favourable opportunity at any future time.

Our annual financial state is unusually prosperous, as will be shewn by the fact that the balance in our treasurer's hands amounts to the sum of £303, although from accidental causes it became necessary to expend during the past year a considerable amount in the purchase of Specimens for the Museum. There is no doubt that much of this satisfactory condition of our annual resources is mainly owing to the recent change in the constitution of our Society, by which already 99 shares for new Proprietary, and 106 shares for new Ordinary Members, have been added to our numbers. However, we must deduct from this large accession of yearly income a loss of £39, in consequence of this number of our old Ordinary Members having taken £20 Shares, by which their yearly Subscription is lessened by £1. 1s. This comparatively trifling loss is amply compensated, for by this means the large sum of £728 has been already obtained for the building fund.

We may also reasonably anticipate a considerable accession to our Annual Subscribers, when the large number of Shares still undisposed of, shall have been transferred from time to time from the present holders to new proprietors. In addition to these new Proprietary and Ordinary Members, three new Ordinary Members, under the old regulation, and twenty-three Annual

Subscribers, have been elected this year. It is therefore now no longer possible to afford even standing room in this inconvenient Theatre for all our Members, exclusive of the friends whom they are entitled to introduce on lecture nights.

PAPERS AND LECTURES.

The Papers on the Sessional Card have been, as of late years, of a high character, and unusual interest; and as most of them were read by men of acknowledged scientific or literary reputation, they were attended by numerous and gratified audiences.

In the month of May an extra Sessional Lecture was delivered by Professor H. D. Rogers, of the University of Glasgow, "On Coal, and its uses." This Lecture (as it was to be expected from the high character of this distinguished philosopher, especially in his own department of geology) was unusually instructive.

1. The Introductory Paper of the Session was read by our President, the Rev. Alfred Barry, "On the Tudor Period and its recent Historians," on the 16th October, 1860.
2. The next Paper was read the 30th of October, 1860, by one of your Honorary Secretaries, Mr. O'Callaghan, "On the Pre-historic Condition of the British Islands, and their Inhabitants," illustrated with numerous Original Drawings.
3. On the 6th of November, 1860, Captain Blakely, Royal Artillery, read a very interesting Paper "On the recent Improvements in Fire Arms." Several of the Volunteer Rifles were present by special invitation on this occasion.

4. Mr. Bloxham, the well-known author of *The Principles of Gothic Architecture*, read a characteristic Paper "On Kirkstall Abbey," on the 22nd November, 1860.
5. The Fifth Sessional Paper was read on the 4th December, by Captain Sherard Osborn, R. N. C. B., "On Northern China considered Geographically and Commercially." The high position and reputation of this distinguished officer, in connection with the then engrossing subject of his Paper, attracted a crowded audience, who appeared to be deeply interested, and usefully instructed.
6. The last Paper of the year was read by Professor H. D. Rogers, "On the reported Traces of Primeval Man." As this has now become one of the most popular subjects of the day, the Paper was of course unusually attractive and instructive, especially as it was illustrated by appropriate Diagrams, and large Drawings of Sections of Geological Strata.
7. On the 15th of January, 1861, the Rev. Professor Temple Chevalier, of the University of Durham, gave us an account of "The recent Total Eclipse of the Sun, as observed in Spain." As the Rev. Professor of Astronomy was personally engaged in these interesting observations, this lecture was exceedingly instructive.
8. On the 29th of January, that distinguished Arctic Navigator, Rear Admiral Sir Edward Belcher, C. B., read a Paper "On the Nations inhabiting the Arctic Regions of North America; their habits, customs, weapons, implements, &c., &c.," to a gratified audience.
9. The Rev. Thomas Hincks, B.A., one of our Honorary Curators, read a very interesting Zoological Paper, entitled "The Story of a Life." This was an original communication of great value, in that department of Natural History to which it referred.
10. The Rev. Edward Monro, Vicar of St. John's, Leeds, read a Paper on the 5th of March; subject, "Tennyson's Idyls of the King, as applied to the present Condition of English Society."
11. In consequence of a serious accident, the Society were unexpectedly deprived of a valuable Paper from Mr. Hopkins, of the University

of Cambridge, which he intended to present to the Council for publication. It is to be hoped that this original communication is only deferred till the next Session. However, the evening set apart for this Paper, (19th of March,) was not lost to the Society, for Mr. Thomas Marshall, one of the Members of our Council, kindly undertook (at short notice) to read a Paper "On Progress and Improvement, their Relations and Contrasts." This was the second occasion on which our friend, Mr. Marshall, volunteered to extricate us from a similar difficulty, and we feel assured that this Society will gratefully appreciate his opportune and valuable services.

12. The last Paper of the Session was one of extreme interest and originality. It was read by Professor Robert Hunt, F.R.S., of the Government School of Mines, on the 2nd of April. The subject, "The Phenomena of Mineral Lodes," was one with which he is especially conversant; and, as the Paper was Illustrated with beautiful Diagrams and Drawings, it was exceedingly attractive.

CONVERSAZIONE.

The Annual Conversazione was held on the 5th of February. On this occasion a most valuable communication from Professor Seyffarth, of St. Louis, U.S., "On the Leeds Mummy," was read by our honorary secretary, Mr. O'Callaghan. In this important paper the learned Professor appears to have demonstrated from the astronomical configurations, and inscriptions on the coffin, that we have now in our Museum, the oldest human body in existence of which there is any accurate record. It would be impossible to do justice to so valuable a paper, in the brief space allowed for such notices in the Annual Report.

A second Paper was read on the same evening, by Mr. Thos. Stansfeld, one of the Members of our Council, for Mr. Edmund Waterton, of Walton Hall. This interesting Paper "On the Wedding Ring" was illustrated by an appropriate exhibition of rare and valuable rings from Mr. Waterton's curious collection.

The apartments of the Museum were thrown open as usual on this occasion, and many beautiful paintings and drawings of local and other artists, besides numerous exquisite photographic pictures, kindly lent for this purpose, afforded much gratification to our visitors. A model of Train's Street Railway Carriage, also an Hydraulic Fire Escape, specimens illustrating a new process of Photography on glass and porcelain, various articles manufactured from ebonite, and a variety of articles of Indian manufacture, with several other objects too numerous to mention in detail, served to diversify this intellectual entertainment.

JUVENILE LECTURES.

The annual course of Christmas Juvenile Lectures was most obligingly delivered by Mr. Richard Reynolds, our fellow-townsmen, and a useful member of this Society. The subject "Our Food from Plants," was admirably illustrated by a great variety of food plants, diagrams, and

beautiful experiments. The Council feel that they owe it to Mr. Reynolds to record on this public occasion, their grateful sense of the useful instruction to old and young, imparted by these highly scientific and practical lectures.

MUSEUM.

This most important department of our institution, is steadily increasing in usefulness and public favour. Last year your Council had the satisfaction of announcing, in their Report, an extraordinary increase in the number of penny visitors, 13,500 such persons having passed through the Museum in the course of the season. This year, however, even that large number has been exceeded by no less than 3000! They look forward, therefore, with pleasing anticipation to the proper arrangement and display of this noble collection in a suitable repository, where it will become not only an attractive place of amusement and agreeable instruction to the vast population of Leeds, and the surrounding neighbourhood, but a source of pride and profit to the Society. For it is certain to become (even by the nominal charge of a penny for admission) in a very short time, an inexpensive, if not

altogether a self-supporting establishment. In our Report of last year, fears were expressed that a collection made for the Museum, at Borneo, by our late lamented correspondent, Mr. James Motley, was probably lost in the fatal insurrection which deprived us of his valuable services for evermore. Fortunately, however, the packages containing this splendid donation were despatched previously to this deplorable event; and after a long detention in a Dutch custom-house, they have arrived at their intended destination at last. By this unlucky occurrence however the boxes were opened, and several specimens abstracted, including an Orang Outan. This collection, which may be called the last bequest of our departed friend, consists of 185 rare Birds, the curious little Bornean Bear, fine Skulls of the Wild Boar and Kajung, several beautiful Monkeys and Squirrels, and a series of Fossils from the Bornean Coal Fields. In addition to this great contribution from Borneo, Mr. Lewis, L. Dillwyn, M.P. for Swansea, has most generously presented us with another valuable collection, made also by Mr. Motley, consisting of an enormous Orang Outan, and two large Skulls of the same creature, a magnificent specimen of the Manis, several rare Monkeys, Otters, and Cats, a Skin and three Skulls of the Alligator, two Skulls of the Water Buck, besides a great variety of beautiful Birds. In grateful recognition of this munificent donation, Mr. Dillwyn has been elected an Honorary Member of our Society.

Our kind friend Mr. William Boyne, has, with his usual liberality, purchased and presented to us, a very fine Skull and preserved Head and Leg of the Rhinoceros Bicornis of South Africa, a Skull of a Female African Elephant, a Lower Jaw of the Asiatic Elephant, and a Skull of the Spotted Hyæna.

These valuable specimens in addition to the opportune purchase of a Skull of the Sumatran Rhinoceros, and the Horns of the Rhinoceros Keitloa, and the Skull of the Phacochærus Æliani have supplied us with most useful illustrations of the order Pachydermata, of which our Museum now contains examples of every known genus.

Our late respected President, the Dean of Chichester, by a portion of his munificent pecuniary donation, has enabled us to secure a very large and beautiful Spiny Echidna, by which the Society is now in possession of the only two species known of this important genus. Also splendid Skulls of the Gavial of the Ganges, the narrow nosed and common Crocodiles of Borneo, some rare species of Quadrumana, several Foreign Birds, and a remarkably fine Femur of the Mammoth from Lowestoff.

Our Vice President, Mr. T. P. Teale, has kindly presented us with a magnificent Jaw of the Sperm Whale, 18 feet long, which has been placed for the present in the Vestibule of our Hall.

During the past session (as previously observed,) an unusually large expenditure has occurred in this department, for the purchase, setting up, and preservation of specimens. This accidental increase has taken place in consequence of opportunities having presented themselves, by which very important acquisitions were thus obtained. From the sale at the United Service Museum in London, last summer, some very valuable specimens were purchased, which have long been desiderata in our collection. A series of rare Bornean specimens, were likewise purchased from the family of poor Mr. Motley, which will now have an especial interest.

A fine specimen of the Chimpanzee having died in this neighbourhood, it was immediately secured at a comparatively low price, so that with the Orang Outan presented to us by Mr. Dillwyn, we have now two of the three species of Anthropomorphous Apes. Thus leaving the Gorilla still as a desideratum, which we must beg of our friends to bear in mind.

From the Liverpool Free Museum, we have procured by exchange, some valuable specimens, amongst them that interesting marsupial animal, the *Myrmecobius Fasciatus*, The *Dasypus Tricinctus*, and *Minutus*, and two rare Hornbills. The Right Honourable Earl de Grey and Ripon has kindly presented us with a fine specimen of the American Wild Turkey, and the Marquis of

Breadalbane has given us a splendid pair of Capercaillies, bred upon his Lordship's domain at Taymouth Castle.

Our collection of British Fishes has been enriched by an unusually large specimen of the Short Sun Fish, caught upon the Yorkshire Coast.

Our friend and fellow-townsmen Mr. Edward Atkinson, has presented us with a fine Skull and Horns of the Syrian Ibex, a specimen of the Aspalax of Syria, together with several Reptiles and Insects from Palestine. The latter are especially interesting as illustrating the extensive Geographical distribution of many species, well known as indigenous in the British Islands.

A second exploration of the Dowkerbottom Cave, in which our curator Mr. Denny, discovered so many objects of interest last year, has been made by Mr. James Farrer, M.P., of Ingleborough House, during the recess. Several additional Antiquarian Relics, both British and Roman, were thus obtained; also some curious animal remains. The most valuable of the latter was a portion of the Skull and Horns of a mature Roebuck, which exhibits the first specimen on record of that ruminant having occurred in a fossil state in Yorkshire.

An accession to our shell collection has been received as a donation from Rear Admiral Sir Edward Belcher. Those from the Arctic Regions, are especially interesting.

The other minor additions to the Museum are too numerous to notice in this Report, especially as they will appear in detail in the usual annual list of donations.

LIBRARY.

The principal additions to the Library by donations during the past year, consist of "Reports of the British Association for the Advancement of Science," 26 vols., 8vo. Presented by the Council of that body.

The "Geology of Pennsylvania and Government Survey by Professor H. D. Rogers," a very expensive book, 3 vols., 4to. Presented by our liberal friend Mr. John Rhodes.

Pitisci's "Lexicon Antiquitatum Romanorum." Presented by our old friend Mr. William Boyne.

The "Meteorological Papers." Published by authority of the Board of Trade, 1846-61. Presented by Rear Admirable Fitzroy.

"Magnetic and Meteorological Observations at St. Helena," 1846 to 1859. Presented to us by the Government.

The Proceedings of the Academies of Stockholm, Philadelphia, and St. Louis. The Transactions of the

“ American Philosophical Society,” “ Boston Natural History Society,” and various Literary and Scientific Societies of Great Britain and Ireland.

These contributions however are not so numerous as last year, but when the projected alterations in our building shall have been completed, and the Society become possessed of a spacious room for that purpose, it is to be hoped that a large increase will also take place in this important department of our Institution, and that the present valuable collection which is now available for the use of our members, (under certain necessary restrictions,) may become a respectable nucleus of a good scientific Library of reference. The establishment of such a Library has long been urgently required by the Members of our Society. We therefore earnestly trust that our friends will remember that donations of books of this class, will be usefully bestowed, and gratefully acknowledged.

From the Meteorological Register kept at the Hall the following abstract is derived, to show the monthly averages for the past year:—

1860.	Mean Temperature.	Mean Height of Barometer.	Total Amount of Rain in Inches.
January	39.0	29.394	2.985
February	36.8	29.810	0.500
March	41.0	29.570	1.385
April	43.7	29.826	0.750
May	53.2	29.411	2.815
June	54.0	29.541	4.425
July	58.9	29.838	2.590
August	55.9	29.475	3.950
September	52.9	29.748	2.275
October	49.6	29.777	1.480
November	41.1	29.761	3.245
December	35.7	29.543	1.915

The greatest degree of Heat, as indicated by the Thermometer, in the sun was 108°, on the 8th of July; greatest in the shade 78°, on the 9th of July.

The greatest Barometric pressure was on the 13th of February, 30.600 inches, the temperature of the Mercury being 48°. The least pressure was on the 24th of January, 28.430, the temperature of the Mercury, 52°.

The greatest fall of Rain was on the 27th of May, being .660.

LEEDS PHILOSOPHICAL AND LITERARY SOCIETY,

FROM MAY 18, 1860, TO MAY 1, 1861.

	£.	s.	d.
RECEIPTS.			
By Balance in Treasurer's hands	326	3	4
Ditto Sub-Curator's hands	7	11	3
Subscription of 23 Old Ordinary Members at 4s. each	67	4	0
" 78 New Ordinary Members at 2s. each	61	18	0
" 29 New Proprietary Members at 2s. each	30	9	0
" 65 Annual Subscribers at 2s. each	68	5	0
" 14 New Annual Subscribers at 3s. each	14	14	0
" 30 Annual Subscribers at 5s. each	7	10	0
" 5 New Annual Subscribers at 5s. each	1	5	0
Arrears of Subscriptions	32	16	0
Rent of Geological Society	50	0	0
Rent of Cellars under the Hall	30	0	0
Rent of Lecture Room	13	13	0
Subscriptions of 3 New Ordinary Members at 4s. each	6	6	0
Admissions to the Museum	63	15	0
Less Commission	5	10	0
Fines from Council Meetings	63	5	0
Sale of Sir J. W. Herschell's Lecture	1	6	6
Interest from Bauser	9	5	3
	5	4	0
	63	5	0
DISBURSEMENTS.			
To Insurance	8	12	6
Gas and Coke	7	0	0
Coal	6	9	0
Tradesmen's Bills:—	Messrs. Hopes, Painters	3	12
Hall, Plumber	12	2	0
Nelson and Son	11	11	11
Harrow, for Brushes	1	2	0
Harvey and Reynolds	3	15	7
Longley and Son, Bricklayers	7	14	0
Hay, Chemist	0	17	94
Wilkinson	0	4	6
Printing and Advertising:—	Messrs. E. Balnes and Son	22	7
C Kempaly	6	5	6
Heaton and Sons	5	13	3
Hobson	1	11	0
Butterworth and Hopes	0	9	0
Books and Stationery:—	Heaton and Son	14	3
J. Cross	1	16	5
Tanfield	3	10	0
Sundries	3	0	0
Travelling Expenses of Readers of Papers	21	9	8
Sub-Curator's Salary	19	10	0
Porter's Salary	120	0	0
Rates and Taxes:—	Water Rate, Main Sewer Rate, Assessed Taxes, and Property Tax	31	4
Expenses of Conversations	12	8	8
Less Receipts	2	15	0
Expenses of Annual Meeting Conversations	3	1	11
Subscription to the Society of Arts	3	2	0
Tea and Coffee for General Meetings	5	5	84
" Council Meetings	2	19	0
Postages and Postage Stamps	10	7	3
Purchase of Specimens for the Museum	44	15	9
" from Dr. Hook's Fund	26	0	0
Carriage and Packing of Parcels and Specimens	7	16	3
Preparation and Setting-up of Specimens	23	8	5
Sundry Expenses, Cleaning, Assistance, &c.	23	14	0
Expenses to the Isle of Man	2	14	3
Subscription to the Union of Yorkshire Philosophical Societies	0	10	6
Gratuity to Mrs. Holmes	3	0	6
Banker's Commission	0	16	0
Balance in Bauser's hands	302	19	7
" Sub-Curator's hands	4	16	0
	306	35	7
	63	5	0
	276	15	3

SUBSCRIPTIONS
 PROMISED FOR THE
ENLARGEMENT OF THE HALL AND MUSEUM
 OF THE
LEEDS PHILOSOPHICAL & LITERARY SOCIETY.

	Additional and New Subs.			Additional and New Subs.		
	£.	s.		£.	s.	
William Aldam.....	25	0	John Bray, Newlay Hall	50	0	
W. J. Armitage.....			W. C. Buck		5 0	
J. Atkinson and Son	5	0	J. O. Butler	50	0	
Rev. Dr. Atlay			Henry Broadhead...		10 0	
Edwd. Baines, M.P.	50	0	James Brown, M.P.	200	0	
Frederick Baines ...	20	0	Samuel Jas. Brown	100	0 50 0	
E. W. Balme, Cote Wall, Mirfield ...	50	0	Wm. Brown, Head- ingley	50	0	
Robert Barr	20	0	Messrs. Briggs & Co., Water Lane	20	0	
Rev. A. Barry	25	0	5 0	Joshua Buckton.....	50	0
Joseph Bateson.....	20	0	George Buckton ...	50	0	
J. M. Barwick	20	0	James Burniston ...	25	0	
John Batley	20	0	5 0	William Cadman ...	10	0
William Beckett ...	200	0	100 0	Dr. Chadwick	50	0
Sir Thomas Beckett, Bart.	50	0	William Chadwick, Arksey	50	0	
George S. Beecroft, M.P.	50	0	S. Clapham, Burley,	20	0	
John Benson.....	20	0	5 0	George Clay	20	0
William Best.....	20	0	5 0	Joseph Cliff	25	0
M. B. Beverley.....			10 10	W. H. Conyers		50 0
Benjamin Binks ...	5	5	25 0	John Cooper	50	0
Samuel Birchall ...	25	0	5 0	Samuel Cooper	50	0
J. D. Birchall	50	0	5 0	John Crofts	50	0
Messrs. Bishop and Hewitt			5 0	Barker Crowther ...	10	0
W. T. Bolland	20	0		J. W. Cudworth ...		10 10
W. T. Bolland, Jun.	20	0		Edward Davis		2 2
William Booth	2	2		Benj. Dawson & Co.	20	0
W. D. Boothman ...	20	0		T. T. Dibb.....	20	0
John Botterill	20	0		G. E. Donisthorpe...	50	0
Charles Bousfield ...	20	0				
James Bray	20	0				

		Additional and New Subs.				Additional and New Subs.			
£.	s.	£.	s.	£.	s.	£.	s.		
Rev. B. Eamson,				Dr. Heaton	25	0	15	0	
Collingham	5	0		J. W. Hebblethwaite	10	0			
Frederick Eddison..	20	0		W. W. Hewitson ...	50	0			
Hannah M. Eddison	20	0		William Hey.....	100	0			
R. J. Ellershaw.....	20	0		Samuel Hey	50	0			
Christopher Empson	10	0	5	0	Rev. Thomas Hincks	5	0	5	0
T. Emsley, Burley	5	0			Peter Hobson	5	5		
Thomas England ...			20	0	J. D Holdforth.....	50	0		
					W. B Holdsworth... 50	0			
Sir Peter Fairbairn	100	0			Samuel Holmes.....			20	0
Andrew Fairbairn...			50	0	Abraham Horsfall... 5	0			
T. Farmer, Arthing-					Joseph Holt	20	0		
ton Hall.....	20	0			Messrs. Hotham &				
William Firth	20	0			Whiting			5	0
Earl Fitzwilliam ...	50	0			Robert Hudson.....	50	0		
J. B. Fleischmann...			5	0	R. J. Hudson.....	20	0	5	0
R. L. Ford.....	20	0			J. I. Ikin			5	0
W. E. Forster, M.P.,					William Illingworth	20	0		
Burley, near Otley	20	0			William Ingham ...	20	0	5	0
Dr. Edwin Foster...	5	0			Edward Irwin	50	0		
Frederick Fryer ...			2	2	Julius Isreal	20	0		
John Fowler	3	3							
					Samuel Jackson ...			30	0
The Earl de Grey					John Jowitt	50	0		
and Ripon	25	0			William Glover Joy.	50	0		
John Gott	300	0	100	0	Walker Joy	25	0		
William Gott.....	300	0	100	0					
Edward Greaves ...			20	0	William Kempe ...			5	0
Dr. Greenhow			5	0	Christ. Kemplay ...	20	0		
Thomas Greenwood,	20	0	5	0	Thos. John Kinnear	50	0	25	0
					Thomas Kirkby.....	10	0		
Thomas Hall.....	50	0	5	0	Frederick Kirkby...	10	0		
John Hargrave	20	0			James Kitson	50	0		
James Hargrave ...	50	0			J. Y. Knight.....			5	0
S. B. Hargreaves ...	50	0			Joseph Lambert ...	20	0		
J. Hartley, Otley ...	5	0			Philemon Land ...			5	0
Messrs. Harvey and									
Reynolds	5	0							

		Additional and New Subs.				Additional and New Subs.	
£.	s.	£.	s.	£.	s.	£.	s.
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Thomas Riley	20	0			J. M. Tennant	25	0
Henry Riley	3	3			Robert Tennant ...	50	0
Richard Ripley	20	0			F. W. Tetley.....	25	0
The Bishop of Ripon	20	0			Anthony Titley.....	20	0
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					H. C. Turkington...	10	0
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Alderman Sidney,							
M.P., London ...	21	0			John Wade	25	0
R. W. Simpson.....	20	0			Edward Walker ...		20
Edw. Simpson, Moor-					Thomas Walker.....	20	0
town			15	0	W. S. Ward	25	0
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Tannett.....	50	0			Thomas Whiteley...	20	0
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James Stables	20	0	5	0	thorpe Hall	25	0
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Walter Stead.....	20	0			John Wilson, Round-		
					hay	20	0
George Talbott.....	20	0	5	0	Wm. Wilson, Armley		5
Mary Ann Tatham	20	0			Philip Wolf	25	0
George Taylor	20	0			R. H. Wood	20	0
Messrs. Taylor and					Harry Wood, Farfield		
Wordsworth	40	0			House, Armley...		50
Joseph Teale.....	20	0			Edward Wurtzburgh	20	0
T. P. Teale	50	0	30	0			
Thomas Tennant ...	50	0			George Young		20

DONATIONS AND ADDITIONS

TO THE

SOCIETY'S MUSEUM.

Those marked thus () are Honorary Members; thus (†) Members of this Society.*

GEOLOGY AND MINERALOGY.

- | | |
|---|--|
| Very fine Femur of the Mammoth, from Lowestoff, in Suffolk..... | *The Rev. Dr. Hook, Dean of Chichester. |
| A Series of Fossils, from the Tertiary Coal Field of South Borneo | The late Mr. James Motley, of Bangermissing, Borneo. |
| Basaltic Column, from the Giants' Causeway. | Mr. J. R. W. Atkinson, London. |
| Fine Specimens of Asbestos, from Natal Colony; Winstone, from the Klip River, South Africa | *Mr. W. Boyne, F.S.A., London. |
| Specimen of Pentacrinus Briareus, from Lyme Regis | Purchased by the Society. |
| Skull and Horns, of an Adult Roebuck, and other Mammalian Remains, from the Dowkerbottom Cave, in Craven..... | James Farrar, Esq., M.P. Ingleborough House. |
| Rock Salt, from Sodom; Silex, from Mount Carmel; Jasper, from the Mount of Olives. } | Mr. Edw. Atkinson, Jerusalem. |

ZOOLOGY.

- | | |
|---|---|
| Fine Specimens of the Chilian Flamingo, (Phœnicopterus ignipalliatas); Immature Emu, (Dromaius Novæ Hollandiæ); Rifle Bird, (Ptiloris Paradiseus); Obarrah, or Frilled Bustard; Adjutant, (Leptoptilus Argali); fine Vulture, (Gyps tenuirostris); Wood Ibis, (Tantalus loculator); Immature Specimen of the Rhea, (Rhea Americana); Red-billed Jay, (Pica erythrorynchus); very fine Skull of the Gavial, (Gavialia gangetica); magnificent Skulls of the Narrow-nosed and common Crocodiles of Borneo; fine Specimen of that rare Monkey the Semnopithecus rubicundus, from Borneo; Specimen of the Wolf; very fine Skull of the Abyssinian Wart Hog, (Phacochærus Æliani); Active Gibbon (Hylobates agilis), from Borneo; splendid Adult Specimen of the Spiny Echidna, (Echidna Spinosa,) from Van Dieman's Land..... | *The Rev. Dr. Hook, Dean of Chichester. |
|---|---|

- Very fine Preserved Head, and Foot, and Skull of the Two horned Rhinoceros, of South Africa; Skull of the African Elephant; Jaw of the Asiatic Elephant; Skulls of the Spotted Hyæna and Reit Bok, of South Africa
- *Mr. W. Boyne, F.S.A., London.
- A Valuable Collection of Specimens from Borneo, consisting of 184 Skins of Birds; Skin and Skull of the Bornean Bear; Skull of the Orang Outan; fine Skull of the Wild Boar; Specimen of the Kalong (*Pteropus Javanus*), and three other Species of Bats; Pair of Squirrels; Pair of the Negro Monkey; and three other Species of Monkeys; Immature Specimen of the Manis; two Specimens of Cats, and other Animals at present undetermined
- The late Mr. James Motley, of Banjermissing, Borneo.
- Thirty Birds from Borneo; Skull of the Muntjak; and Skull of a Diak Chief
- Purchased by the Society.
- Very fine Jaw of the Sperm Whale, 18 Feet in length
- †Mr. T. P. Teale, F.L.S., (President.)
- Fine Specimen of the American Wild Turkey, (*Meleagris Fera*)
- The Right Hon. the Earl de Grey and Ripon.
- Skull of the Common Crossbill, with extraordinary malformation of the Beak
- †Mr. H. Smeeton.
- Skulls of the Leopard, Wolf, and Striped Hyæna; fine Specimen of Sponge, (*Raphiophora patera*)
- Purchased by the Society.
- Skull and Horns of the Syrian Ibez, (*Capra Egagrus*); Specimen of Blind Mole of Syria, (*Spalax Typlus*); several Snakes and Lizards, and various Insects, from Jerusalem
- Mr. Edw. Atkinson, Jerusalem.
- Skull of the One-horned Rhinoceros, of Sumatra, (*Rhinoceros Sumatrensis*); Horns of Rhinoceros Keitloa, Specimen of the Chimpansee, (*Troglodytes Niger*), from Western Africa; Specimen of the Black Rat, (*Mus rattus*); Specimen of the Young Koala, (*Phascolarctus fuscus*); Frigate Bird; very fine Skull of the Spanish Ox; magnificent Snout of the Sawfish; fine Carapace of an Indian Tortoise.....
- Purchased by the Society.
- Skull of the Bottle-nosed Dolphin; Jaws, Dorsal Fin, and Vertebrae, of the Shark; Two Skulls of the Albatros; Horn of the Gamsbok
- Mrs. S. Radcliffe, per Mr. Joseph Teale.

- Specimens of the Banded Myrmecobius, (*Myrmecobius Fasciatus*); *Bucerus plicatus* and *Scutatus*, *Dasypus trilineatus* and *Minutus* Carapace, of *Dasypus Pueba*; Pair of *Cymbirinchus*, *Macrorhynchus*..... } Obtained by Exchange from the Liverpool Free Museum.
- A valuable series of 141 Specimens from Borneo, collected by the late Mr. Motley, consisting of two remarkably fine skulls, and Skin of a very large Orang Outan; Alligator, and Three Skulls of Ditto; magnificent Specimen of the Manis; Skin and Skull of the Bornean bear; two Skulls of the Water Buck; Immature Specimen and Mature Skull of the Muntjak; five Otters; seven Monkeys; five Skulls of different species of Monkeys; Skeleton of a Monkey; two very fine Specimens of Cats; Adjutant, Eagle, and various Species of Birds..... } *L. L. Dillwyn, Esq., M.P., Swansea.
- Two rare Species of Squirrel, and a Specimen of the *Petaurus Ariel* } †Mr. O'Callaghan.
- Specimens of the Tree Frog, (*Hyla viridis*), fine Pair of the Corrugated Hornbill, (*Bucerus corrugatus*); very large Specimen of the Sun Fish (*Orthogoriscus mola*), caught at Spurn Point; Specimen of the Slow-paced Lemur, (*Nycticebus javanicus*); Pair of Wilson's Phalarope, (*Phalaropus Wilsoni*); Specimen of Bartram's Sandpiper; Narrow-nosed Alligator; Black-bellied Darter, (*Plotus melanogaster*); Friar Bird, (*Tropidorhynchus corniculatus*); Indian Toad; Three Australian Hawks; Swainson's Gamsonyx; Ground Cuckoo, (*Geococcyx affinis*) } Purchased by the Society.
- An Interesting Collection of Exotic and Arctic Shells } Rear Admiral Sir Edward Belcher, C.B.
- Very fine Pair of the Capercailzie (*Tetrao Urogallus*)..... } *The Most Noble the Marquis of Bredalbane, Taymouth Castle.
- Sea Snake, caught at the Friendly Isles } Mr. F. A. Buttray, Sydney.
- Fine Stuffed Specimen of the Domestic Cat, } †Mr. Goodman, Gledhow.
- Two Scorpions, found alive in a Log of Honduras Logwood } Mr. George Roberts, Jun.
- Specimens of *Helix Huttoni*, Adult and Young; *Bulleus Punctatus*, from the Himalaya; *Planorbis Coromandelica*, (Hindustan); *Assiminia Francesi*, (Calcutta); and *Pirena atra*, (Polu Penang)..... } Mr. W. H. Benson, F.L.S., Cheltenham.

- A Cannon Ball, from Adwalton Moor..... Mr. Joshua Oldroyd, Birstal.
- Five Stone Celts, from Ireland; Milk Bottle, }
 from Langabalana, Natal; Wooden Milk }
 Jar, from Natal; three Caffir Spoons, and } *Mr. W. Boyne, F.S.A., London.
 Caffir Snuff Boxes
- Several Encaustic Tiles, from Kirkstall Abbey Mr. J. Wardell.
- The Harpoon of the Bon-Accord Whale Ship, }
 of Hull, which was lost in the ice
- A Copper Coin, from Delhi Mr. S. Criglington, Belfast.
- Two Figures, made of Leather, exhibiting the }
 ordinary Costume of the Male and Female }
 Bosjesmens, made by the Natives
- A Chinese Umbrella..... †Mr. Samuel Clapham.
- Cast of the Hand of Patrick Cotter, an Irish }
 Giant, who died in 1802
- Specimens of the New Bronze Coinage †Mr. Commissioner Ayrton.
- Three Stone Adzes, and Two Coins, found in }
 a Bog, near Belfast
- Two Self-Registering Thermometers Mr. Edward Davis.

LIBRARY.

- The Physical Constitution of the Sun, a dis- }
 course delivered in the Sheldonian Theatre, } Purchased by the Society.
 at Oxford, by Rev. Robert Walker, M.A.... }
- Transactions of the Historic Society of Lan- }
 cashire and Cheshire: vol XII. } The Historic Society of Lan-
 cashire and Cheshire.
- A Guide to the Museum of the Literary and }
 Philosophical Society of Hull
- Transactions of the Academy of Sciences of }
 Philadelphia: vol. XII., part 2; Proceed- }
 ings of Ditto, parts 23 to 27, 1859; parts }
 1 to 5, 1860
- Description of a Deformed Fragmentary }
 Human Skull, found in an ancient Quarry } Presented by the Author.
 Cave at Jerusalem, by T. Aiken Meigs, }
 M.D. }
- Transactions of the Royal Society of Edin- }
 burgh: vol. XXII. Proceedings of the }
 Royal Society of Edinburgh, 1858-1859 ... } The Royal Society of Edin-
 burgh.

- Extracts from the Literary and Scientific Correspondence of Richard Richardson, M.D., F.R.S., of Burley, in Yorkshire, Edited by Dawson Turner, F.R.S.: 8vo..... } *Mr. J. R. Tennant, Kildwick-Hall.
- Meteorological Papers, published by authority of the Board of Trade: part 4th, 4to, 1860 } The Board of Trade, by Rear Admiral Fitzroy, F.R.S.
- Quarterly Journal of the Geological Society: Nos. 62 to 68. Address of the President of the Geological Society, delivered 17th Feb., 1860..... } The Geological Society of London.
- Forty-first Annual Report of the Royal Institution of Cornwall..... } The Royal Institution of Cornwall.
- Reports of the British Association for the Advancement of Science: 26 vols, 8vo. ... } The British Association.
- Magnetic and Meteorological Observations at St. Helena, 1844-49: 4to. } The British Government.
- Lexicon Antiquitatum Romanorum, in quo Ritus, et Antiquitates, cum Graecis ac Romanis communes tum Romanis peculiare, Auct: Samuele Pitisco. 2 vols., 4to., 1718 } *Mr. W. Boyne, F.S.A., London.
- Memoirs of the Literary and Philosophical Society of Manchester: vol. XV., part 2, 8vo. Proceedings of the Literary and Philosophical Society of Manchester, 1859-60... } The Manchester Literary and Philosophical Society.
- Address to the Geographical and Ethnological Society of the British Association at Oxford } Sir R. I. Murchison, F.R.S., President.
- Four Numbers of the Collectanea Antiqua, by C. Roach Smith } †Mr. O'Callaghan.
- The Geology of Pennsylvania and Government Survey, by H. D. Rogers, State Geologist: 3 vols., 4to..... } †Mr. John Rhodes.
- Proceedings of the Literary and Philosophical Society of Liverpool } The Liverpool Literary and Philosophical Society.
- Memoirs of the Astronomical Society: vol. XXVIII, 4to. } The Royal Astronomical Society of London.
- Catalogus Plantarum; folio. Reports and Papers of the Architectural Society of York and Lincoln for 1857-8-9..... } †Mr. O'Callaghan.
- Annual Report of the Board of Regents of the Smithsonian Institution, 1858..... } The Smithsonian Institution, Washington.

- The Transactions of the American Philosophical Society, Philadelphia: vol. VI.... } The American Philosophical Society, Philadelphia.
- The Transactions of the Academy of Sciences of St. Louis: vol. I., No. 3. } The Academy of Sciences of St. Louis.
- Geological Report of the Country along the line of the South Western Branch of the Pacific Railroad, by C. Swallow, State Geologist: 8vo..... } The Academy of Sciences of St. Louis, United States
- First Reports of a Geological Reconnaissance of the Northern Counties of Arkansas, made during the years 1857 and 1858, by Davis Dale Owen, } The Smithsonian Institution, Washington.
- Proceedings of the Boston Natural History Society: vols. VI. VII., 8vo. } The Boston Natural History Society, U. S.
- Reports of the United States Coast Survey for 1857-1858, by Professor A. Bache: 4to.... } Professor Bache, United States.
- William Burke, the Author of Junius. An Essay on his Era, by Felinger Cookson Symons, Barrister-at-Law..... } The Author.
- Light more Light, a Prize Essay on the Present State of Education amongst the Working Classes of Leeds, by James Hole. } †Mr. O'Callaghan.
- Coins of the Romans relating to Britain, by J. Y. Akermann, 8vo. } †Mr. Commissioner Ayrton, F.S.A.
- Transactions of the Royal Academy of Sciences of Stockholm for 1859. } The Royal Academy of Stockholm.
- Monthly Notices of the Royal Astronomical Society, Vol. XXI., } The Royal Astronomical Society of London.
- Appendix to the Makerstone Magnetical and Meteorological Observations, 4to..... } The Royal Society of Edinburgh.
- Dur Konigliche Mineralogische Museum in Dresden.—Von Hanns Bruno Geinitz Denkschriften der Naturwissenschaftlichen Gesellschaft. Isis zu Dresden von. Dr. A. Drechsler } Professor Geinitz, Dresden.
- Journal of the Royal Dublin Society, Nos. XVIII-XIX. } The Royal Dublin Society.
- Notice of the Origin and Progress of the Academy of Sciences of Philadelphia, by W. S. W. Ruschenbergher, M.D. } The Academy of Sciences of Philadelphia

- Smithsonian Contribution to Knowledge, vol. } The Smithsonian Institution,
 XI., 4to..... } Washington.
- A remarkable Papyrus Scroll, written in the } The Author,
 Hieratic character about 1050 B.C., illus- } St. Louis, U. S.
 trated by G. Seyffarth, A.M., Ph. D., D.D. }
- On Clavatella, a new Genus of Corynoid } The Author.
 Polypes and its Reproduction, by Thomas }
 Hincks, B.A..... }
- Eburacum, or York under the Romans, by } Mr. C. Wellbeloved, Leeds.
 Charles Wellbeloved. 8vo..... }
- The Annual Report of the Yorkshire Philo- } The Yorkshire Philosophical
 sophical Society for 1860 } Society.
- Journal of Proceedings of the Kilkenny } The Kilkenny Archæological
 Archæological Society for 1860 } Society.
- Reports of the Registrar General } The Registrar General.

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	{ Rev. Thomas Hincks, B.A.
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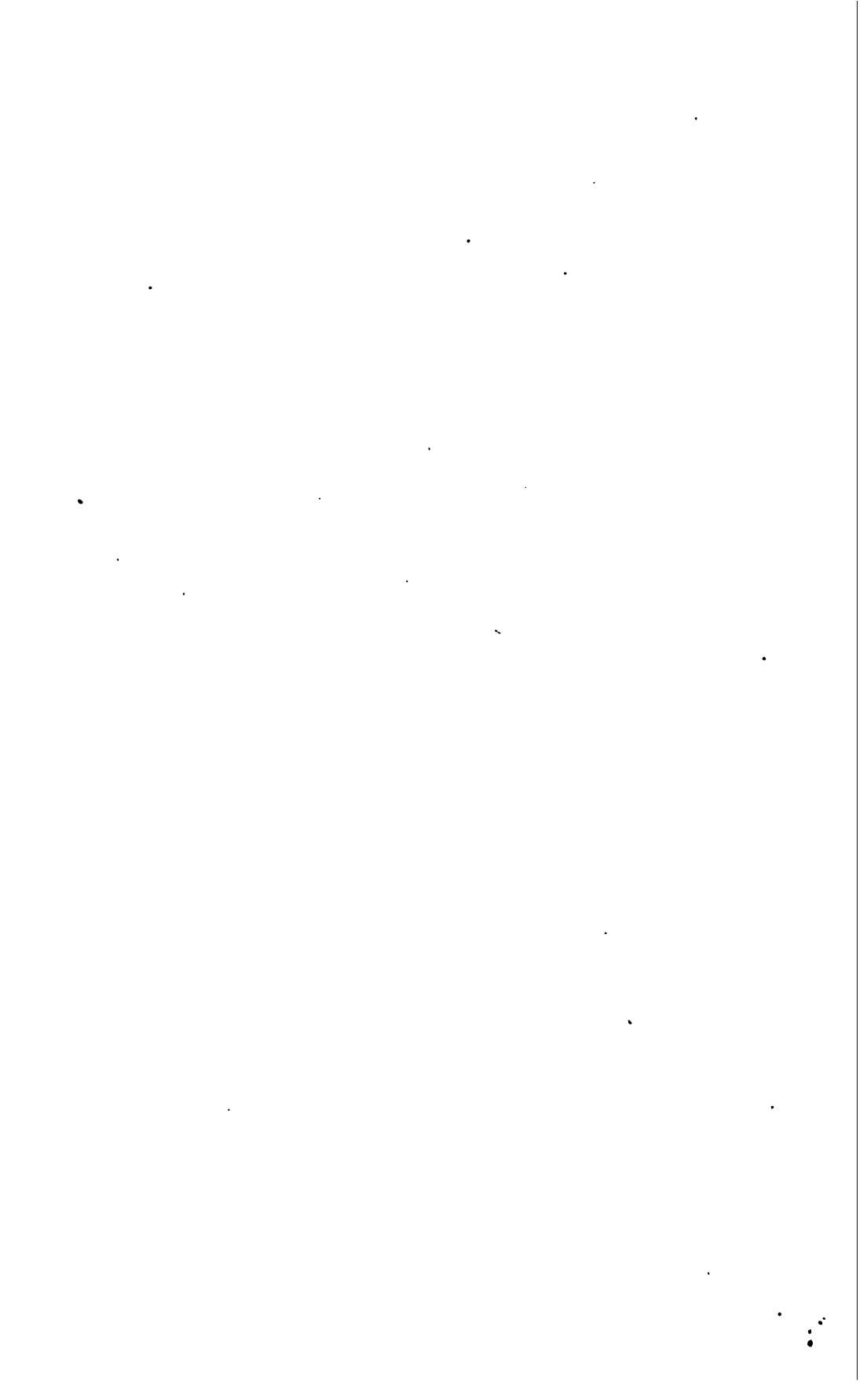




May 24 '62

LEEDS
PHILOSOPHICAL & LITERARY SOCIETY.

THE ANNUAL REPORT
For 1861-62.



May 28, 1862

LEEDS
PHILOSOPHICAL & LITERARY SOCIETY.

THE ANNUAL REPORT

For 1861-62.

Se Le 1

FORTY-SECOND REPORT
OF
THE COUNCIL
OF THE
LEEDS
PHILOSOPHICAL AND LITERARY
SOCIETY;

AT THE CLOSE OF THE SESSION,

1861-62.

READ AT THE ANNUAL MEETING, MAY 6TH, 1862.

LEEDS :

PRINTED BY J. HAMER, SUCCESSOR TO J. HEATON & SON, 7, BRIGGATE.

MDCCLXII.

IMPORTANT RULE
RESPECTING THE PROPERTY OF THE SOCIETY;

PASSED OCTOBER 8TH, 1860.

That in the event of the dissolution of this Society, its Property and Effects, whether real or personal, shall not be disposed of for the personal benefit of the Members, but shall be appropriated in such manner for the advancement of Science, Literature, or Art, in the town of Leeds, as shall be determined by a majority of the Members, at an extraordinary Meeting to be convened for that purpose. But that no dissolution of the Society shall take place without the consent, in writing, of a majority holding not less than two-thirds of the Proprietary Shares.

FORM OF A BEQUEST TO THE SOCIETY.

Every person desirous of bequeathing to the Society any Sum of Money, Specimens, Books, Instruments, or other Property, is requested to make use of the following Form :—

I give and bequeath to the Trustees for the time being of the Society established at Leeds, called "THE LEEDS PHILOSOPHICAL AND LITERARY SOCIETY," for the use of the said Society, the sum of _____, to be paid out of such part of my personal Estate as I may legally charge therewith. [Or here enumerate the Effects or Property intended to be bequeathed.] And I direct that the Receipt of the Treasurer of the said Society for the time being, shall be an effectual discharge to my Executors for the said Legacy.

REPORT OF THE COUNCIL

AT THE CLOSE OF THE

FORTY-SECOND SESSION,

MAY 1st, 1862.

It is the pleasing duty of the Council to commence their Forty-second Annual Report by congratulating the Members on the steadily increasing prosperity of the Society.

The result of the appeal which it was found necessary to make during the recess, having been most liberally responded to, and the sum of £8,747 having been subscribed, the Building Committee were thus enabled to adopt the Plan of Messrs. Dobson and Chorley, and to advertise for contracts for the building. As the lowest tenders were sent in by tradesmen of acknowledged respectability and skill, they were, of course, accepted. Accordingly, the erection of the new Museum, Lecture Theatre, and Library, and the reconstruction of the old building, were commenced with all despatch; and although there is still a considerable amount of work to be done before the com-

pletion of the whole structure, they hope that the advance already made will be deemed satisfactory.

During the progress of the building, a few alterations and improvements, both as to external effect and internal arrangements, suggested themselves, and, after careful consideration, the Building Committee approved of their adoption, although they were thus necessarily obliged to incur a small additional outlay.

The most important of these was the erection of a handsome and commodious Porch to cover the great door in Park Row, to extend over the paved footway, and thus allow the entrance and exit of company from carriages, without inconvenience, in all weather, besides adding dignity and importance to the architectural elevation of the principal front of the edifice.

To make this improvement, however, it was necessary to obtain the permission of the Town Council; and we have much pleasure in availing ourselves of this public opportunity of acknowledging the friendly feeling in which the official application of the Building Committee for this favour was received by that body, and most kindly and considerately complied with.

The introduction of vases to complete the vertical line of the pilasters, and break the monotonous level of the parapet, was suggested by high authority to the Building Committee, and unhesitatingly approved of by the architect. In this instance, the Building Committee were relieved from the responsibility of trespassing on the limited funds at their disposal, by the generosity of

one of their own Members, and they request that the Council will avail themselves of this occasion to make a public and grateful acknowledgment to Mr. John Rhodes for his munificence in defraying the expense of this interesting addition to the external decoration of the building.

Questions of considerable importance connected with the lighting, warming, and ventilating the entire building, have engaged the attention of the Committee, who found it necessary to request their architect to inspect some of the large public institutions of the country. From his report and plans they trust that the improved arrangements to be carried out in these departments will be found to give general satisfaction.

In consequence of the very defective state of the roof of the old Geological Room, it has been found absolutely necessary to replace it by a new one of improved construction, also admitting more light. This unavoidable expense is in some degree compensated for by the increased height of the wall, which will thus admit of the erection of a gallery at some future time, if required.

The whole sum subscribed up to this day, is £8,747 18s. The expenditure, in the purchase of the adjoining warehouse, the cost of building and alterations, architects' commission, salary of clerk of works, legal expenses, furnishing Lecture Theatre, Museum, Library, &c., will probably fall very little short of £10,000. To make up the deficiency, we confidently

trust that those patriotic citizens who have not as yet assisted us, and many of the neighbouring gentry who have not been personally applied to, will now come forward to help us in the completion of such a noble effort to provide suitable accommodation for this valuable Institution, which has, year by year, materially contributed to raise the character of the West Riding of Yorkshire and its great capital.

Your Council have much satisfaction in reporting the prosperous state of the finances of the Society. During the past year, forty-five new Annual Subscribers of different classes, and two Members of the old Ordinary class, have been elected. By the extension of the cellarage also under the enlarged building, the annual rent of these premises will be more than doubled.

Some unusual items have been unavoidably added to our expenditure during the late exceptional Session. Your Council have been obliged to engage a temporary Lecture Theatre for the General Meetings of the Society; and they are indebted to the Committee of the Stock Exchange for a considerable reduction from their usual rent for their large room hired for this purpose. They have been also compelled to hire a small neighbouring house in Wine Street for their temporary accommodation during the progress of the new building, at a rent of twenty pounds a year. The Council and the Building Committee have been most comfortably accommodated during their Meetings in

this convenient house, which is at the same time occupied by the servants of the Institution, who are thus enabled to take charge of the Library, and numerous articles which are required to be kept dry and secure.

Notwithstanding the heavy demands upon our ordinary funds in these various items of unusual expenditure, and the serious loss of income from the closure of the Museum, the Meeting will be glad to hear that the Society have up to this day a balance of £267 18s. in the hands of their Treasurer.

While referring to the property of the Society and its altered circumstances, it will be proper to state here that your Council were legally instructed that a re-appointment of Trustees of the Institution was urgently required, in consequence of the original number having been reduced to one, from death or other causes. This subject was submitted to a Special General Meeting of the Proprietary Members, when it was resolved to appoint to this office some of the younger members of those influential families by whom the Society has been generously supported. In accordance with this view, the following gentlemen were elected as new Trustees to act with Mr. Gott:—Mr. Reginald Dykes Marshall, Mr. William Ewart Gott, Mr. Samuel James Brown, Mr. William Beckett Denison, Mr. Francis Lupton, and Mr. Samuel Birchall.

In consequence of the important changes which have taken place in the constitution of the Society

during the past year, the Council are engaged in the careful consideration and revision of its Rules and Regulations, so as to adapt them to the altered circumstances of the Institution. When the new Rules and Regulations shall have been approved by our successors, they will, of course, be submitted to the consideration of a General Meeting, to be specially convened for that purpose, and of which due notice will be given.

The irreparable loss sustained by the nation from the unexpected and premature death of the late lamented Prince Consort, have evoked the heartfelt sympathy of all classes with their beloved Queen in her sad bereavement. Foremost amongst those bodies who ventured to approach Her Majesty with Addresses of Condolence in this hour of trial, were the various learned and scientific Institutions of the country. With this object, also, a Special General Meeting of this Society was held on the 18th of January last, and an Address of Condolence, prepared by the Council, was read by one of your Honorary Secretaries. The adoption of this Address was moved by His Worship the Mayor of Leeds, and seconded by Mr. Gott, and carried unanimously. It was resolved at the same time, that the Address should be entrusted to our Honorary Member, Earl de Grey and Ripon, for presentation to Her Majesty. The Council beg leave to state that this Address was kindly presented by his Lordship, and received most graciously by the Queen.

PAPERS AND LECTURES.

The Sessional Card has been exceedingly interesting and attractive.

1. The Opening Lecture was delivered by Dr. Mouat, Her Majesty's Inspector-General of Prisons in the Bengal Presidency of India. The subject was "A Narrative of a Government Expedition to Explore the Andaman Islands, with an Account of the Country and its extraordinary Inhabitants." Professor Owen had read, a few weeks before, a Paper "On the Physical Peculiarities of the Andamans," at the Meeting of the British Association at Manchester, and as he stated that his facts were obtained from Dr. Mouat, this Lecture was looked for with much curiosity by a crowded Meeting of the Society. The audience appeared to be highly gratified by Dr. Mouat's instructive and singular narrative, eloquently related in the most pleasing and popular manner.
2. At the second General Meeting of the 5th November, the celebrated Monsieur P. B. Du Chaillu gave the Society an account of his "Travels in equatorial Africa, and the Gorilla country." This Lecture was illustrated with splendid specimens of the Male and Female Gorilla, and two other species of African Apes, from his own collection. Much curious desire to see this extraordinary traveller was evinced by the Members of this Society, and the Lecture Theatre was crowded to excess.
3. On the 19th November, a Paper was to have been read by Captain Cameron, Her Majesty's Consul in the Caucasus, on "The Geography, Ethnology, and Commerce of that interesting country." Captain Cameron having been unexpectedly ordered to proceed to his Consulate at a few hours' notice, was compelled to send his Paper to be read by Mr. O'Callaghan. This valuable Paper, though exceedingly interesting and instructive from the matter, necessarily lost much of its attractiveness from the absence of the writer.

4. At the fourth General Meeting on the 3rd of December, a Paper was read by the Rev. John Kenrick, of York, "On the Historical Traditions of Pontefract Castle, with an inquiry into the evidence of the Death of Richard II. within its walls." From the high literary reputation of the distinguished Vice-President of the Yorkshire Philosophical Society, and the local associations of the subject, this Paper was looked for with general interest. Unfortunately Leeds was visited with a dense fog on that evening, which prevented a large portion of the Members from hearing one of the best written Papers of the Session, displaying in a remarkable manner the learned industry and research of the author.

5. On the 20th December, a most interesting Lecture was delivered by Professor Allen Dalzell, of Edinbro', "On the recent Spectrum Discoveries of Kirchoff and Bunsen, and their application." This instructive Lecture was admirably illustrated by successful experiments, which were beautifully manipulated and clearly explained to a crowded and gratified audience.

6. On the 7th of January, Professor Henry Hennessy, F.R.S., of Dublin, read a most interesting Essay "On the Relations of Science to Modern Civilization." This learned Paper appeared to be so highly appreciated and so valuable, that a request was made by the Council to the distinguished author to allow the Society to publish it. We have the pleasure to state that this request has been obligingly complied with, and that the Paper is now in the hands of our printer, and will be distributed to the Members in due course with this Report.

7. On the 7th of January, Professor John Connington, of Oxford, was to have read a Paper "On the Play of Hamlet." Unluckily this Paper was mislaid by the learned Professor, and a reading of his own translation of the Fourth Book of the *Æneid* of Virgil was substituted for it. The translation appeared to be very beautiful and faithful, and the reading was listened to with much attention and pleasure by those Members to whom the subject was familiar.

8. At the eighth General Meeting on the 4th of February, a Paper was read by our Vice-President, the Rev. Alfred Barry, "On the Historical and Philosophical value of the Study of Language." It is unnecessary to observe that this Paper, on a subject peculiarly associated with the pursuits of the accomplished author, was heard with much interest by a numerous audience.

9. On the 18th of February, a Lecture was delivered by Mr. John Lubbock, F.R.S., "On the recent Geologico-Archaeological Discoveries in Denmark, Switzerland, and France." As this important subject is at present engaging the attention of the scientific world, a numerous audience assembled to hear Mr. Lubbock's account of his personal explorations and investigations of these extraordinary vestiges of a primeval race of man. This attractive Lecture was admirably illustrated with Maps and Drawings; and from the graphic and lucid manner in which Mr. Lubbock arranged his materials and explained his views, the Meeting was evidently much gratified.

10. The Rev. J. B. Reade, F.R.S., delivered a Lecture "On Polarized Light," at the tenth General Meeting, on the 4th of March. This interesting subject was ably treated by our distinguished fellow-townsmen, who was most efficiently assisted in his beautiful illustrative experiments by Dr. Miller, of London, and Mr. W. R. Milner, of Wakefield. The Council have much pleasure in recording in this Report their grateful acknowledgment of the obligation conferred on the Society by these gentlemen, whose valuable services contributed so much to the usefulness and attractiveness of Mr. Reade's Lecture.

11. Major-General Chesney, R.A., F.R.S., &c., was to have read a Paper "On the Primeval Cities of the World," at the twelfth General Meeting, on the 7th of April. Unluckily (as in the case of Captain Cameron) the General was unexpectedly compelled to embark at a few hours' notice for Constantinople, on the very day when he was expected at Leeds. However, as his Map and Drawings are deposited in the hands of one of your

Honorary Secretaries, we look forward with pleasure to the fulfilment of his engagement, which was thus accidentally interfered with.

12. The thirteenth General Meeting concluded the Session, with a most valuable and instructive Paper from Professor Hopkins, of Cambridge, "On the Motion of Glaciers." This distinguished Philosopher had intended to read an original communication "On the Temperature of the Earth's Crust." Unfortunately he has not recovered sufficiently from his severe accident of last year to undertake the necessary investigations and personal explorations of deep mines, so as to enable him to collect all the facts he requires. However, he has kindly volunteered to fulfil his promise next Session; and we are confident that the Society will be at all times ready to receive him with a grateful welcome, whenever he may be enabled to favour them with a Lecture or Paper on any subject he may select for their instruction.

JUVENILE LECTURES.

During the month of January, Dr. Clifford Allbutt, one of our new Members, kindly delivered a valuable Course of Juvenile Lectures "On the Forms of Plants and Animals." These highly instructive Lectures appeared to be appreciated not only by the young people, but by their parents and friends, who attended in considerable numbers each day.

MUSEUM.

The greatest part of the contents of the Society's Museum still remain closely packed in the old rooms which are not to be much disturbed in the reconstruction of the building; but much difficulty was felt in providing accommodation for the large and cumbrous articles which it was necessary to remove. From this embarrassment your Council were relieved by the considerate liberality of one of the most munificent and constant friends of the Institution, Mr. James Brown, M.P., of Rossington, who kindly gave them the use of a large warehouse in Woodhouse Lane, rent free. Your Council feel that they would be wanting in the performance of their duty if they neglected to bring this generous act under the notice of the Society, and to record on this public occasion their grateful sense of the obligation, under which they are placed to this respected friend of the Institution.

It is evident that this popular source of useful instruction continues to increase in attractiveness, from the fact that upwards of 3,000 visitors were admitted in the months of May and June, the short period of last year during which it could be kept open to the public.

In anticipation of its entire reconstruction and rearrangement, the Curators have availed themselves of every opportunity for procuring specimens illustrative of peculiar Geological formations, or typical of Generic

forms, upon the possession of which so much of the educational value of the Museum depends. In furtherance of their exertions in this direction, they have to acknowledge the kind assistance of several friends, from whom valuable contributions have been received.

The Society is indebted to Mr. Pickering, of Tufnel Park Road, London, for seventy-one examples of Land and Fresh-water Shells, from the upper tertiary deposits of Copford and Grays, in Essex, and the Kennet valley peat beds, near Newbury. A series of the Brachiopodus Mollusca from the Carboniferous Limestone, and specimens of Rocks from the neighbourhood of Richmond, in Yorkshire, have been presented by Mr. Edward Wood, F.G.S. The examples from the Carboniferous Limestone series of Yorkshire, have been further enriched by the liberality of Mr. J. H. Burrow, of Settle.

The Mineralogical collection has been enriched by the kind contribution of several Cornish specimens, presented by Mr. Charles Bousfield, of Leeds; and a valuable series of specimens of Aluminium, presented by Messrs. Bell Brothers, of Newcastle-on-Tyne. This department, however, although extensive for a provincial Museum, is yet in want of several important Earths and Metals.

In the department of Zoology, several valuable acquisitions have been made. A magnificent adult specimen of the Scarlet Flamingo, an Australian Pelican, and a very fine example of that singular and

rare reptile, the *Molochus Horridus*, were presented to us by Mr. James Farrar, M.P., of Ingleborough House, in this county.

His Worship the Mayor of Leeds, Mr. James Kitson, has kindly presented us with fine examples of the Roseate-Spoonbill and Arabian Vulture.

A fine specimen of the Stanley Crane, a White Falcon from Australia, and a pair of Caledonian Night-Herons, have been presented by Mrs. Thomas Tennant; and a Male and Female Lyre Bird, by Mr. George Morley, of this town.

Our old and generous contributor, Mr. Edward Atkinson, has presented us with a fine Male specimen of the Beden, or Syrian Ibex, and the Chetah or Hunting Leopard from Mount Carmel. Mr. Andrew Fairbairn has presented us with a specimen of the Male Honduras Turkey. Messrs. Hyam, of Leeds, have given us a fine White-headed Eagle.

To the munificent liberality of Mr. Thomas Walker, of Stainley Hall, near Ripon, the Society is indebted for a most interesting and valuable collection of Quadrupeds, Birds, and Reptiles, from South Africa: amongst these will be found the Galago Moholi, Egyptian and Red Ichneumons, Crocodile, Monitor Lizard, the Goliath and Black-headed Herons, Purple Water-Hens, Hornbills, Fish-Eagle, Trogon, Cuckoos, Sand-Pipers, &c. From our fellow-townsmen, Messrs. Russum Brothers, another valuable collection of forty South African Birds has been presented. In this group

are included several interesting species of Ducks and Geese, Pigeons, Partridges, Fruit Eaters, Rollers, Eagles, Peregrine Falcon, Heron, &c. Mr. Oswald Brigg, of Graham's Town, has also sent us several interesting specimens of Reptiles and Insects. From South Africa we have likewise received, as a donation from Mr. Henry Gilbert Jackson, a fine specimen of that splendid Antelope, the Koodoo.

Mr. T. J. Pearson has presented us with twelve Australian Birds; a gift which comes most opportunely, as the Museum is much in want of specimens of Birds from that colony.

Mr. Townend Glover, of New York, has most liberally presented us with thirteen American Birds, including the Bird of Washington. A specimen of that beautiful little American Rodent, called Hoods Marmot, has been presented by Mr. O'Callaghan. A good specimen of the Three-toed Sloth of Rio Janeiro, has been presented by Mr. William Petty.

The British series of Birds have been enriched by the addition of three fine Ptarmigans in their summer plumage, presented by the Marquis of Breadalbane; also by a very fine pair of the Ringed Pheasant, presented by Mr. Henry Hood, of Scruton Hall; and by a specimen of the Sandwich Tern, by Mr. William E. Swaine.

In addition to the foregoing valuable donations, several important acquisitions have been obtained by purchase from the ordinary funds of the Society.

These include a remarkably fine species of Sloth, from Demerara; the Small and Hairy Armadillo; fine pairs of the Horned Tragopan, and Peacock Pheasant; a young specimen of that extraordinary reptile, the Lepidosiren; fine pair of the Rock Snake; a superb specimen of the Eagle Owl; also specimens of the Scops Owl, Red-necked and Eared Grebes; and fine casts of the Skulls of the Gorilla, both adult and young. Fine examples of the three species of Woodocrinus (a genus of Crinoids, peculiarly interesting from its isolated locality in the West Riding of Yorkshire); also, several fine specimens of Fossil Fish, from the marlstone of Durham. While to the Oolitic series have been added several of the interesting Fishes and Crustacea, from the limestone beds of Solenhofen and the foliated brown coal of the Rhine.

The principal additions to the department of Archæology, consist of a beautiful antique Gold Watch, presented by Miss Oates, of this town. Six Sepulchral Vases, from the graves at Cuzco, the ancient capital of Peru, presented to us by our munificent patron, Mr. William Gott. Five Stone Implements, from sepulchral mounds in Denmark, presented to us by Professor Stephens, of Copenhagen. An ancient Porcelain Seal of Thotmoses III., King of Egypt, presented by Mr. Edward Atkinson. An ancient Wooden Comb, from the bog of Allen, in Ireland, and two large and rare specimens of old Irish Silver Ring-Money, presented by your Honorary Secretary, Mr. O'Callaghan.

LIBRARY.

The Library has received several important additions during the past year. Foremost amongst these is the splendid donation from the Lords Commissioners of the Admiralty, consisting of the whole series of works of the Royal Astronomical Society, upwards of forty volumes, 4to. The Society are much indebted to Professor Airey, the Astronomer Royal, for this valuable addition to its Library.

The Society has also been presented with a complete series of Astronomical and Meteorological Observations made at the Radcliffe Observatory of Oxford. For this gift we are indebted to the Trustees of the Radcliffe Observatory.

The Council beg leave to direct attention to another splendid donation, presented by the Trustees of the British Museum, consisting of 131 volumes, comprising the entire series of the Illustrated Catalogue of the Zoological department of this great national collection. For this most valuable and useful gift, the Institution is mainly beholden to one of the kindest and most influential of their Honorary Members, the Right Honourable Earl de Grey and Ripon.

The Astronomical Society of London have kindly presented us with their "Memoirs."

The Archæological Society of Sussex have presented us with four volumes of their Transactions.

The Imperial Royal Geographical Society of Vienna have honoured us with a present of four 4to. volumes of their Transactions.

The Royal Academy of Sciences of Palermo have likewise presented us with a series of their Transactions; and at the same time conferred the diploma of Honorary Membership of their Society upon Mr. O'Callaghan, one of your Honorary Secretaries.

We have also to acknowledge a gift of the Transactions of the Royal Society of Edinburgh; the Proceedings of the Academy of Sciences of Philadelphia; the American Philosophical Society; the Smithsonian Institution, Washington; and those of various other British and Foreign Societies, as will be seen in the detailed list of our Annual Contributions.

The Council, in thus acknowledging and gratefully recording these numerous and valuable contributions to the Museum and Library, cannot conclude their Report without expressing a hope that, when the splendid apartments for their reception shall have been completed, the friends of the Society will see that patriotic bequests and donations to such a noble Institution cannot be more usefully bestowed.

From the Meteorological Register kept at the Hall the following abstract is derived, to show the monthly averages for the past year :—

1861.	Mean Temperature.	Mean Height of Barometer.	Total Amount of Rain in Inches.
January	36.0	29.995	0.020
February	41.0	29.656	1.565
March	43.0	29.511	3.420
April	45.0	30.028	1.475
May	50.0	29.912	0.765
June	58.0	29.794	1.785
July	59.0	29.528	3.940
August	61.0	29.639	0.780
September	51.0	29.469	3.265
October	50.0	29.651	0.925
November	39.0	29.289	2.690
December	39.0	29.743	1.220

The greatest degree of Heat, as indicated by the Thermometer, in the sun, was 102°, on the 1st of September ; greatest in the shade 83°, on the 14th of June.

The greatest Barometric pressure was on the 4th of February, 30,600 inches, the temperature of the Mercury being 57°. The least pressure was on the 19th of March, 28,750, the temperature of the Mercury 55°.

The greatest fall of Rain was on the 5th of September, being 0.870.

LEEDS PHILOSOPHICAL AND LITERARY SOCIETY,

From MAY 7th, 1861, to MAY 6th, 1862.

RECEIPTS.		£.	s.	d.
To Balance in Treasurer's hands		302	19	7
Ditto Sub-Curator's hands		5	6	2
Subscriptions of 30 Old Ordinary Members at 4s. each		63	0	0
" 85 New Ordinary Members at 2s. each		89	5	0
" 39 New Proprietary Members at 2s. each		78	10	0
" 70 Annual Subscribers at 2s. each		140	0	0
" 20 New Annual Subscribers at 2s. each		40	0	0
" 32 Subscribers at 5s. each		160	0	0
" 21 New Annual Subscribers at 5s. each		105	0	0
Rent of Geological Society		20	0	0
" Cellars under the Hall		20	0	0
" Lecture Room		3	0	0
Admissions to the Museum		12	10	0
Less Commission		1	0	0
Fines for Council Meetings		11	10	0
Sale of Old Paper		0	14	6
Interest from Bankers		0	16	6
Arrears of Subscriptions		6	0	0
		36	19	0
£708 4 9				

DISBURSEMENTS.		£.	s.	d.
By Insurance		8	12	6
Gas and Coke		5	7	4
Coal		6	10	6
Trademen's Bills:—				
Messrs. Hoppes, Painters		2	6	6
Benton, Joiner		16	12	6
Hall, Plumber		1	16	0
Nelson and Son		2	16	0
Harvey and Reynolds		3	4	9
Holland		1	19	0
Hassé		1	12	6
Printing and Advertising:—		6	2	6
Messrs. Baines and Son		18	15	6
C. Kemplay		4	10	0
W. Tanfield		0	15	0
Books and Stationery:—				
J. Cross		4	10	0
W. Tanfield		0	15	0
Travelling Expenses of Readers of Papers		49	13	0
Sub-Curator's Salary		120	0	0
Porter's Salary		31	4	0
Rates and Taxes		5	14	4
Rent of Stock Exchange for General Meetings		26	0	0
House in Wine Street		15	0	0
Civil Court		11	0	0
Subscription to the Society of Arts		2	2	0
Postages and Postage Stamps		7	18	2
Purchase of Specimens for Museum		36	5	1
Carriage and Packing of Specimens		5	15	4
Preparation and Setting-up of Specimens		21	10	1
Sundry Expenses, Cleaning, and Assistance		22	11	7
Tea and Coffee for Council Meetings		4	9	0
Gratuity to William Holmes, the Porter		5	0	0
Bankers' Commission		0	14	0
Balance in Bankers' hands		267	18	10
Sub-Curator's hands		6	16	3
		£708	4	9

SUBSCRIPTIONS

FORWARDED FOR THE

ENLARGEMENT OF THE HALL AND MUSEUM

OF THE

LEEDS PHILOSOPHICAL AND LITERARY SOCIETY.

Additional and New Subs.				Additional and New Subs.					
	£.	s.	£.	s.		£.	s.	£.	s.
William Aldam	25	0			William Booth	2	2		
W. J. Armitage			10	0	W. D. Boothman ...	20	0		
J. Atkinson and Son	5	0			John Botterill	20	0		
Rev. Dr. Atlay			10	10	Charles Bousfield ...	20	0		
Edward Baines, M.P.	50	0			James Bray	20	0		
Frederick Baines ...	20	0			John Bray, <i>Newlay</i>				
E. W. Balme, <i>Cote</i>					<i>Hall</i>	50	0		
<i>Wall, Mirfield</i>	50	0			W. C. Buck			5	0
Robert Barr	20	0			J. O. Butler	50	0		
Rev. A. Barry	25	0	5	0	Henry Broadhead ...			10	0
Joseph Bateson	20	0			James Brown, M.P.	200	0		
J. M. Barwick	20	0			Samuel Jas. Brown	100	0	50	0
John Batley	20	0	5	0	Wm. Brown, <i>Head-</i>				
William Beckett ...	200	0	100	0	<i>ingley</i>	50	0		
Sir Thomas Beckett,					Messrs. Briggs & Co.,				
Bart.	50	0			<i>Water Lane</i>	20	0		
George S. Beecroft,					Joshua Buckton.....	50	0		
M.P.	50	0			George Buckton.....	50	0		
John Benson	20	0	5	0	James Burniston ...	25	0		
William Best	30	0	5	0	William Cadman ...	10	0		
M. B. Beverley			10	10	Dr. Chadwick	50	0		
Benjamin Binks.....	5	5			William Chadwick,				
Samuel Birchall.....	25	0	25	0	<i>Arksey</i>	50	0		
J. D. Birchall.....	50	0			Thomas Charlesworth			10	0
Messrs. Bishop and					S. Clapham, <i>Burley</i> ...	20	0		
Hewitt			5	0	George Clay	20	0		
W. T. Bolland	20	0			Joseph Cliff	25	0		
W. T. Bolland, Jun.	20	0			W. H. Conyers			50	0

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	£.	s.	£.	s.		£.	s.
John Cooper	50	0			Thomas Hall	50	0
Samuel T. Cooper ...	50	0			John Hargrave	20	0
John Crofts	50	0			James Hargrave ...	50	0
Barker Crowther ...	10	0			S. B. Hargreaves ...	50	0
J. W. Cudworth ...			10	10	J. Hartley, <i>Otley</i> ...	5	0
					Messrs. Harvey and Reynolds	5	0
Edward Davis			2	2	Dr. Heaton	25	0
Benj. Dawson & Co.	20	0			J. W. Hebblethwaite	10	0
The Duke of Devon- shire			25	0	W. W. Hewitson ...	50	0
T. T. Dibb	20	0			William Hey	100	0
G. E. Donisthorpe...	50	0			Samuel Hey	50	0
					Rev. Thomas Hincks	5	0
Rev. B. Eamonsen, <i>Collingham</i>	5	0			Peter Hobson.....	5	5
Frederick Eddison...	20	0			J. D. Holdforth	50	0
Hannah M. Eddison	20	0			W. B. Holdsworth...	50	0
R. J. Ellershaw	20	0			Samuel Holmes		20
Christopher Empson	10	0	5	0	Abraham Horsfall ...	5	0
T. Emsley, <i>Burley</i> ...	5	0			Joseph Holt	20	0
Thomas England ...			20	0	Henry Holt		20
					Messrs. Hotham and Whiting		5
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Andrew Fairbairn...			50	0	R. J. Hudson.....	20	0
T. Farmer, <i>Arthing- ton Hall</i>	20	0			J. I. Ikin		5
William Firth	20	0			William Illingworth	20	0
Earl Fitzwilliam ...	50	0			William Ingham ...	20	0
R. L. Ford.....	20	0			Edward Irwin	20	0
W. E. Forster, M.P., <i>Burley, near Otley</i>	20	0			Julius Israel	20	0
Dr. Edwin Foster ...	5	0					
Frederick Fryer.....			2	2	Samuel Jackson.....		20
John Fowler	3	3			John Jowitt	50	0
					William Glover Joy	50	0
The Earl de Grey and Ripon.....	25	0			Walker Joy	25	0
John Gott	300	0	100	0	William Kempe.. ...		5
William Gott.....	300	0	100	0	Christopher Kempsey	20	0
Edward Greaves.....			20	0	Thos. John Kinnear	50	0
Dr. Greenhow			5	0	Thomas Kirkby.....	10	0
Thomas Greenwood..	20	0	5	0	Frederick Kirkby ...	10	0

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	£.	s.		£.	s.
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J. Y. Knight			5	0	
Joseph Lambert.....	20	0			
Philemon Land			5	0	
Samuel Lawson and Sons	60	0			
J. W. Leather			20	0	
J. T. Leather, <i>Leaven-</i> <i>thorpe Hall</i>	50	0			
Samuel Leathley ...	20	0			
William Ledgard ...	20	0			
Eyre Ledgard.....			20	0	
Dennis Lee.....	10	0			
William Lister	5	0			
The Rt. Hon. Lord Londesborough ...	10	0			
J. D. Luccock	25	0	25	0	
Henry Ludolf.....	50	0	10	0	
Arthur Lupton	100	0	50	0	
Joseph Lupton	50	0			
Darnton Lupton ...	25	0	10	0	
Francis Lupton	25	0	25	0	
John Lupton	25	0			
Jos. Lupton, <i>Armley</i>	20	0			
C. E. MacCarthy ...	5	5			
C. G. Maclea	20	0			
John Manning	15	0			
J. O. March	50	0			
George March	20	0			
J. L. Margerison ...	50	0			
Jas. Garth Marshall	200	0			
H. Cowper Marshall	200	0			
Arthur Marshall ...	200	0			
Reginald Dykes Marshall.....			50	0	
J. Marshall, <i>Hors-</i> <i>forth Hall</i>	20	0	10	0	
S. D. Martin	10	0			
Edmund Maude.....	20	0			
J. W. Middleton ...	10	0	10	0	
John Mirfin					20 0
George Morley	20	0			10 0
John Morfitt	5	0			
William Morphet ...					20 0
W. H. N. Myers ...	20	0			5 0
W. C. Myers	20	0			
N. P. & H. Nathan					20 0
Charles Naylor					5 0
D. W. Nell	20	0			
George Nelson	20	0			5 0
Henry Nelson					20 0
W. N. Nicholson, <i>Roundhay</i>	50	0			
Richard Nickolls ...	25	0			
Thomas Nunneley ...	20	0			5 0
Thomas Nussey	20	0			
Obadiah Nussey.....	20	0			
The Misses Oates ...	10	0			
P. O'Callaghan	20	0			5 0
Henry Oxley	50	0			
The Rt. Honourable Viscount Palmer- ston, M.P.	25	0			
R. E. Payne	25	0			
William Petty	20	0			
Thos. Edwd. Plint...	20	0			
J. W. Ramsden					20 0
Josiah Ramskill.....	3	3			
Dr. Ramsbotham ...					20 0
Miss Read	20	0			
W. T. Raynar					10 0
Isadore Ree					3 3
George Reinhardt ...					5 0
Rev. J. A. Rhodes...	100	0			
John Rhodes	100	0			50 0
Rev. W. Richmond, <i>Moortown</i>					5 0
J. H. Richardson ...	10	0			

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	£.	s.	£.	s.		£.	s.
Thomas Riley.....	20	0			J. M. Tennant	25	0
Henry Riley	3	3			Robert Tennant.....	50	0
Richard Ripley	20	0			F. W. Tetley	25	0
The Bishop of Ripon	20	0			Anthony Titley	20	0
Richard Robinson ...	20	0			Thomas A. Titley ...	20	0
John Robinson	20	0			J. W. Tottie, <i>London</i>	20	0
Charles Ryder	10	10			Richard Townsley ...	20	0
					H. C. Turkington ...	10	0
William Scholefield..			5	0	R. B. Turner		25 0
Edward Schunck ...	50	0					
B. F. Scott.....	5	0			J. G. Uppley	50	0
Nathaniel Sharpe ...			25	0			
John Hope Shaw ...	20	0	10	0	B. R. Vickers.....	5	0
Alderman Sidney,							
M.P., <i>London</i> ...	21	0			John Wade.....	25	0
R. W. Simpson	20	0			Edward Walker.....		20 0
Edw. Simpson, <i>Moor-</i>					Thomas Walker	20	0
<i>town</i>			15	0	W. S. Ward	25	0
John Smith	50	0	50	0	Major Waud	20	0
John Metcalfe Smith	25	0					
John Edward Smith			20	0	John Whitaker, 32,		
J. Wales Smith	5	0			<i>Abchurch Lane,</i>		
Wm. Farrar Smith...	20	0			<i>London</i>	100	0
Smith, Beacock, and					Messrs. J. and W.		
Tannett	50	0			Whiteley		10 0
Henry Smith	5	0			Thomas Whiteley ...	20	0
Edward James Smith	5	0			Wilkinson and Co...	50	0
James Stables.....	20	0	5	0	John Wilkinson, <i>Aus-</i>		
T. W. Stansfeld.....	50	0			<i>thorpe Hall</i>	25	0
Walter Stead	20	0			John Wilson, <i>Seacroft</i>	50	0
					John Wilson, <i>Round-</i>		
George Talbott	20	0	5	0	<i>hay</i>	20	0
Mary Ann Tatham...	20	0			Wm. Wilson, <i>Armley</i>		5 0
George Taylor	20	0			Philip Wolff	25	0
Messrs. Taylor and					R. H. Wood	20	0
Wordsworth	40	0			Harry Wood, <i>Farfield</i>		
Joseph Teale	20	0			<i>House, Armley</i> ...		50 0
T. P. Teale.....	50	0	30	0	Edward Wurtzburgh	20	0
Thomas Tennant ...	50	0					
					George Young		20 0
Mrs. Tennant.....	50	0					

DONATIONS AND ADDITIONS

TO THE

SOCIETY'S MUSEUM.

Those marked thus () are Honorary Members; thus (†) Members of the Society.*

GEOLOGY AND MINERALOGY.

- A Collection of Fossils, from the Cleveland Hills } Mr. Richard Thorp, Cleveland.
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 Bog of Allan, Ireland; Specimens of } †Mr. O'Callaghan.
 Ancient Silver Ring-Money, found in }
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- Violin made by Chinese Emigrants at }
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- Fine Tile from a Roman Hypocaust, near } †Mr. Eyre Ledgard, Stokesley.
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- Cast of a Brass Medal of Henry VIII., }
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- Very remarkable Hatchet, of Basalt, found }
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 with some from the Island of Tahiti } O'Callaghan.

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- Proceedings of the Boston Natural History
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- Proceedings of the Academy of Natural
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- The Radcliffe Catalogue of Six Thousand
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- Annual Report of the Halifax Literary and Philosophical Society for 1861-62... } The Halifax Literary and Philosophical Society.
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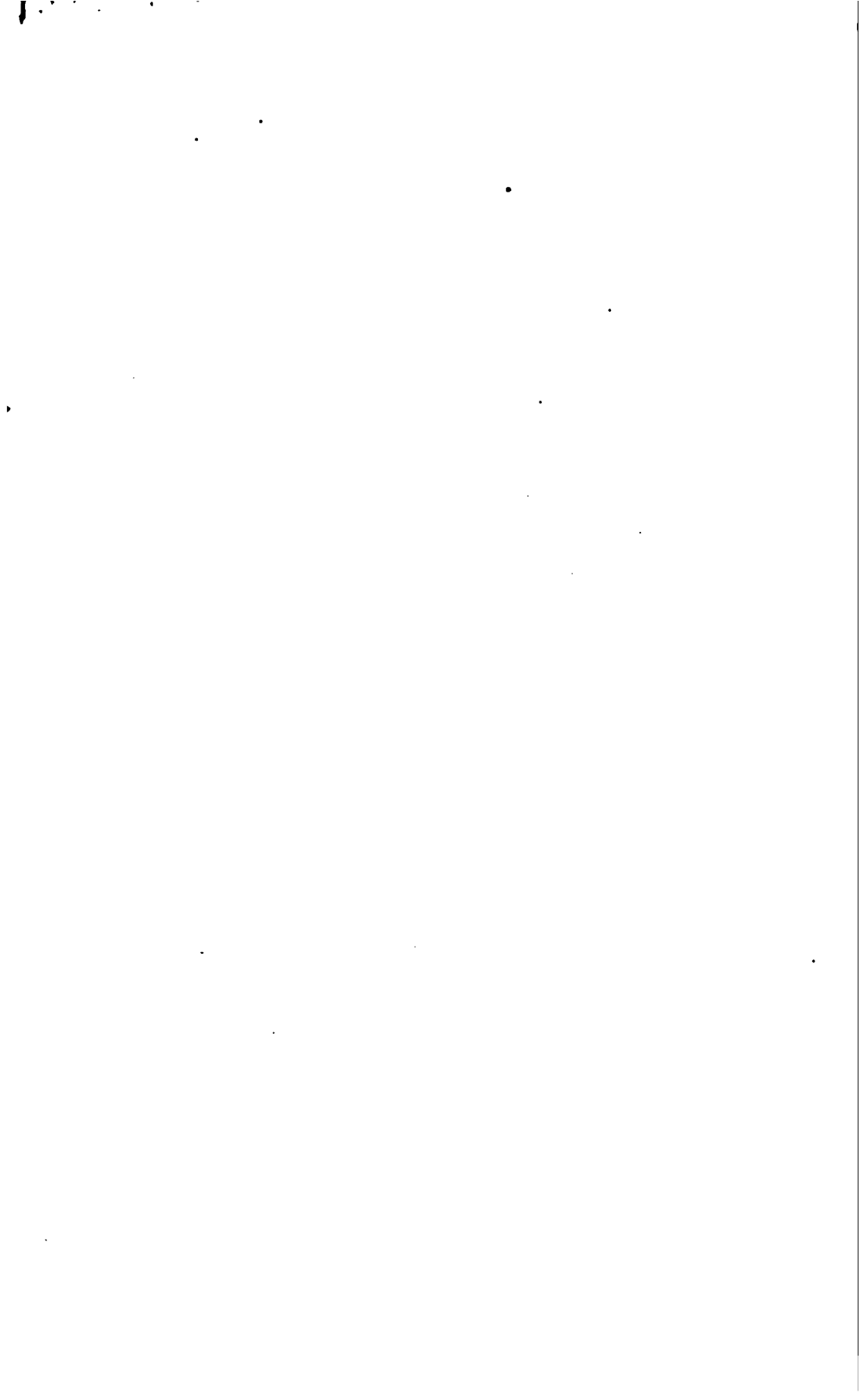
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- M. Allen, M.D., *Epping Forest.*
- Samuel Bailey, *Sheffield.*
- Spencer F. Baird, M.D., Smithsonian Institution, Washington, United States.
- Sir J. Bowring, LL.D., *London.*
- W. Boyne, F.S.A., *London.*
- Edward William Brayley, F.R.L. and G.S., &c., *London.*
- The Most Noble Marquis of Breadalbane, K.T., F.R.S., President of the Royal Antiquarian Society of Scotland, *Taymouth Castle.*
- Sir David Brewster, D.C.L., F.R.S., &c., *Edinburgh.*
- Signor Frederico Lancia di Brolo, *Palermo.*
- Joseph Burland, *South Cave.*
- Rev. Temple Chevallier, F.R.S., *Durham.*
- John Crawford, F.R.S., *London.*
- Henry Denny, A.L.S., Corresponding Member of the Academy of Natural Sciences of Philadelphia; of the Syro-Egyptian Society of London; Honorary Member of the Philosophical Society of Dickinson College, Carlisle, Pennsylvania; of the Yorkshire Philosophical Society; and of the Norfolk and Norwich Museum; *Leeds.*
- Lewis Llewelyn Dillwyn, M.P., F.L.S., F.G.S., *Hendrefoilan, Swansea, Glamorganshire.*
- J. Drake, M.D., *Cincinnati.*
- William Hey Dykes, F.G.S., Honorary Member of the Yorkshire Philosophical Society, *Wakefield.*
- William Fairbairn, F.R.S., LL.D., *Manchester.*
- Lord Feversham, *Duncombe Park.*
- The Right Hon. Earl Fitzwilliam, F.R.S., &c., *Wentworth House.*
- Herr Franz Foetterle, Secretary of the Imperial Royal Geographical Society of Vienna, &c., &c.
- George Lane Fox, *Bramham Park.*
- Robert E. Grant, M.D., F.R.S.L., and E., and F.L.S., G.S., Z.S., W.S., &c., &c., Professor of Comparative Anatomy and Zoology in the University of London, *London.*
- Rev. W. V. Vernon Harcourt, F.R.S., F.G.S., Vice-President of the Yorkshire Philosophical Society, *Bolton Percy.*
- Sir J. F. W. Herschel, Bart., K.H., &c., &c., &c., *Collingwood, Kent.*
- The Hon. Richard Hill, Member of Her Majesty's Privy Council for Jamaica, Corresponding Member of the Zoological Society of London, of the Boston Natural History Society, U. S., &c., &c., *Spanish Town, Jamaica.*
- The very Rev. Walter Farquhar Hook, D.D., F.R.S., Dean of Chichester, &c., *Chichester.*
- William Hopkins, M.A., LL.D., F.R.S., F.G.S., *Cambridge.*
- Luke Howard, F.R.S., *Ackworth.*
- W. M. Maude, *Knostrop.*
- The Chevalier Michelotti, *Turin.*

- The Right Hon. Lord Monteagle.
Lawrence Oliphant, F.R.S., *London*.
William Osburn, M.R.S., Lit., &c.,
Leeds.
C. C. Oxley, *Redcar*.
Sir Joseph Paxton, M.P., *Chatsworth*.
Mons. Boucher de Perthes, President
Soc. d'Emul. Imp. d'Abbeville,
Abbeville.
John Phillips, M.A., LL.D., F.R.S.,
F.G.S., &c., Reader in Geology in
the University of Oxford.
Col. Sir Henry Rawlinson, C.B.,
F.R.S., M.R.A.S., &c., *London*.
The Right Hon. the Earl de Grey
and Ripon, F.R.S., F.G.S., *Studley
Royal, Ripon*.
The Lord Bishop of Ripon, F.R.S.,
the Palace, Ripon.
Rev. Adam Sedgwick, M.A., F.R.S.,
Woodwardian Professor of Geology
in the University of Cambridge.
Gustave Seyffarth, A.M., D.D.,
Ph.D., Professor in the Concordia
College, St. Louis, United States.
- Reverend William Sinclair, M.A.,
Pulborough Rectory, Sussex.
John Robert Tennant, *Kildwick Hall*.
Thos. Stewart Trail, M.D., F.R.S.,
Professor of Medical Jurisprudence
in the University of Edinburgh.
Rev. Edward Trollope, M.A., F.S.A.,
Prebendary of Lincoln, *Leasing-
ham*.
Rev. Robert Walker, M.A., F.R.S.,
Reader in Experimental Phi-
losophy in the University of Ox-
ford, *Oxford*.
Charles Waterton, Hon. Member of
the Yorkshire Philosophical So-
ciety and Bristol Institution,
Walton Hall.
Rev. William Whewell, D.D., F.R.S.,
F.G.S., and Master of Trinity Col-
lege, Cambridge.
Thomas Wright, M.A., F.S.A.,
M.R.S.L., Member of the Insti-
tute of France, Corresponding
Member of the Society of Antiq-
of Normandy; of the Royal
Society of Northern Antiquaries
of Copenhagen; of the Society of
Antiquaries of Scotland; &c., &c.,
Brompton.





*sent Boston Nat Hist Society
from the Leeds Phil Lit Society*

Apr. 64

**LEEDS
PHILOSOPHICAL & LITERARY SOCIETY.**

THE ANNUAL REPORT

For 1862-63.

~~1913~~

Se 4e /

Boston Society of Natural History.

From

Received

FORTY-THIRD REPORT
OF
THE COUNCIL
OF THE
LEEDS
PHILOSOPHICAL & LITERARY
SOCIETY,
AT THE CLOSE OF THE SESSION
1862-63.

READ AT THE ANNUAL MEETING, MAY 6TH, 1863.

LEEDS:
PRINTED BY EDWARD BAINES AND SONS.
MDCCLXIII.

IMPORTANT RULE
RESPECTING THE PROPERTY OF THE SOCIETY;

PASSED OCTOBER 8TH, 1860.

That in the event of the dissolution of this Society, its Property and Effects, whether real or personal, shall not be disposed of for the personal benefit of the Members, but shall be appropriated in such manner for the advancement of Science, Literature, or Art, in the town of Leeds, as shall be determined by a majority of the Members, at an extraordinary Meeting to be convened for that purpose. But that no dissolution of the Society shall take place without the consent, in writing, of a majority holding not less than two-thirds of the Proprietary Shares.

FORM OF A BEQUEST TO THE SOCIETY.

Every person desirous of bequeathing to the Society any Sum of Money, Specimens, Books, Instruments, or other Property, is requested to make use of the following Form:—

I give and bequeath to the Trustees for the time being of the Society established at Leeds, called "THE LEEDS PHILOSOPHICAL AND LITERARY SOCIETY," for the use of the said Society, the sum of _____, to be paid out of such part of my personal Estate as I may legally charge therewith. [Or here enumerate the Effects or Property intended to be bequeathed.] And I direct that the Receipt of the Treasurer of the said Society for the time being, shall be an effectual discharge to my Executors for the said Legacy.

REPORT OF THE COUNCIL

AT THE CLOSE OF THE

FORTY-THIRD SESSION,

MAY 1ST, 1863.

No Annual Meeting of the Members of this Society has been assembled under circumstances of greater interest than on the present occasion, since its first formation forty-three years ago. It is highly probable that the Session which is about to close this evening, will be looked back upon, after the lapse of many future years, as the most memorable in its annals.

It was stated in the last Annual Report that the various important changes which have been recently made in the constitution of the Society had rendered a revision of its laws and regulations imperatively necessary. Accordingly, several general meetings of the Members were specially convened during the recess, for the consideration and revision of the laws which were to regulate the future government of our Institution. It was ultimately agreed to refer the laws thus revised, to the consideration of two members of the legal profession, old friends of the Society, Messrs. J. H. Shaw and T. T. Dibb,

for the purpose of making such verbal or technical alterations as they might think desirable. In this amended form, the new laws and regulations were finally adopted on the 8th of last December. They have been since printed, and are now ready for distribution to the Members, on application to the Assistant Secretary.

Our President commenced his opening address, by bidding you a hearty welcome to this noble Hall; and Professor Owen, in his inaugural address, was pleased to express his unqualified praise, not only of the construction of the entire edifice, but also of the suitable disposition of the various apartments, and the arrangements of the Museum, then only in process of being carried out in detail. Our Hall has been since visited by Dr. Gray, of the British Museum; Professor Huxley, of the Government School of Mines; and Professor Morris, of the University College, London; and this meeting will be glad to hear that these learned gentlemen, so highly distinguished in their respective departments of Natural History and Geology, were equally gratified with what they saw here. Your Council, therefore, feel that it is due to their architects, Messrs. Dobson and Chorley, to state on this occasion that they have succeeded, under great disadvantages, in reconstructing this Building, with all its various requirements, to their entire satisfaction.

It may be well to mention here, that the difficulties incidental to the first trials of a new and complicated system of heating, ventilating, and lighting the different rooms of this large building, have been nearly overcome, and your Council do not anticipate any further inconvenience to the Members, from future accidental failures in these essential requisites.

Although the Building Committee have been anxiously careful of the expenditure of the funds at their disposal, during the time of their supervision, they found certain outlays beyond the original estimates unavoidable. For instance, the roof of the old Zoological Museum was ascertained to be so defective, that it became absolutely necessary to replace it with a new one, and to improve the vertical lights. This, with several minor alterations, obliged them to come reluctantly before their friends and the public with another appeal to their liberality. Your Council have great pleasure in acknowledging the generous response already given to this appeal, and they confidently hope to see their successors enabled to conduct the affairs of the Society, during the ensuing Session, unembarrassed with any serious pecuniary difficulties. Your Council cannot allow this opportunity to pass without calling upon this annual meeting, for a general expression of their grateful sense of the important services rendered to this Institution, by the assiduous labours of the Building and Canvassing Committees. To the untiring exertions of these gentlemen, the Society is mainly indebted for the splendid building in which we are now assembled—a building of which not only Leeds, but this great West Riding of York, may justly feel proud, and the advantages of which will be appreciated from year to year more and more. Although it is difficult to bring under exclusive notice on this occasion individual Members of these Committees, when all have done so much, still your Council would wish to make a special acknowledgment to the Chairman and Treasurer of both these Committees, those generous friends of the Society, Mr. William Gott and Mr. John Rhodes.

In looking through the last five or six annual reports it will be seen that a steadily progressive improvement has been taking place, not only in our ordinary financial affairs, but likewise in the increasing interest and enlarged attendance of the Members at the evening meetings. The past year, however, has exceeded our most hopeful calculations in this respect, and we now find that this spacious and commodious Lecture Theatre is barely sufficient for the accommodation of the audience, even on ordinary occasions. During the past Session 196 new Members and Subscribers have been elected; this actually nearly trebles our former constituency, not including old Proprietary Members. In 1857-8 our Society consisted of 189 Members and Subscribers, while this year its numbers have increased to 560.

Your Council must not overlook this occasion for adverting to the lamented death of the late William Beckett, Esq., one of the most influential Members of the Society. Mr. Beckett has been at all times a liberal supporter of this Institution, and a short time before his death contributed a large sum towards the rebuilding of this Hall.

PAPERS AND LECTURES.

The Sessional Programme of Lectures and Papers has never been excelled in any previous year, either in importance or interest.

1. Mr. James Glaisher, F.R.S., of the Royal Observatory of Greenwich, was so kind as to give us a graphic account of his recent Balloon Excursions for the purpose of Meteorological Observations. On this occasion, and during a most instructive course of four Lectures, delivered by Professor Owen, "On

Subjects of Natural History and Paleontology," it was deemed advisable to admit non-Members, on a small pecuniary charge, to the privilege of hearing and seeing these distinguished men. For this purpose, the Council were obliged to engage the Music Hall, and to incur considerable expense in printing and advertising. They have, however, the pleasure to report that this speculative outlay was fully made up by these exceptional payments, and repaid more than tenfold, by the extraordinary increase in the number of our Members and Subscribers.

2. The new Hall was appropriately opened on the 16th December, with an Inaugural Address from one of the greatest living Naturalists, Professor Owen, and the meeting will be glad to hear that this admirable discourse has been printed for the Society, and can be now obtained by the Members, on personal application to the Assistant Secretary. In the evening of the same day, the Members re-assembled, when an Address was delivered by our President, Mr. T. P. Teale, F.R.S., "On some objects of interest peculiar to our Museum." At the conclusion of this address the rooms were thrown open for a *Conversazione* and Exhibition, which will be noticed subsequently.
3. At the second General Meeting in our new Hall, Sir Rutherford Alcock, Her Majesty's Minister at Japan, delivered an interesting Lecture "On Japan." This Lecture was illustrated with maps and drawings, and numerous specimens of Japanese Art.
4. At the third General Meeting, John Scott Russell, Esq., F.R.S., the famous Naval Architect, delivered a Lecture "On the Iron Navy of England."
5. At the fourth General Meeting, Sir Charles Nicholson, Bart., D.C.L., LL.D., late Speaker of the House of Assembly and Chancellor of the University of Sydney, read a Paper "On Australia, its present state and prospects."
6. At the fifth General Meeting, the Rev. Thomas Hincks, B.A., one of our Vice-Presidents, read a Paper "On the Plan of Life," taking a department of Natural History, in which he has acquired special distinction.
7. At the sixth General Meeting, Sir Harry Parkes, K.C.B., Her Majesty's Consul in China, delivered a Lecture "On China, its present state and relations with Europe."

8. At the seventh General Meeting, Professor Pepper, the well-known Lecturer at the Royal Polytechnic Institution of London, gave us a Lecture "On the Progress of Modern Science, as illustrated by the late International Exhibition." This Lecture was in part experimental.
9. At the eighth General Meeting, that distinguished Architect, George Gilbert Scott, Esq., F.S.A., R.A., read a Paper "On Gothic Revival, the true ground work of a distinct Architectural Style."
10. At the ninth General Meeting, Cyril Graham, Esq., B.A., gave us a Lecture "On the Ancient Cities of Og, in the land of Bashan." Illustrated with maps and drawings.
11. At the tenth General Meeting, Clifford Allbutt, Esq., M.B., a Member of the Council of this Society, read a Paper "On Physiognomy."
12. At the eleventh and last General Meeting, we were favoured with a Paper by Major General Chesney, F.R.S., M.R.I.A., &c., "On the Primeval Cities of the World." Illustrated with maps and numerous drawings.

Reverting to the *Conversazione* and Exhibition, your Council feel that it is necessary to explain the circumstances under which the latter was undertaken. One of the officers of the Society, during a visit to the International Exhibition last year, had been promised by the authorities of South Kensington a special loan of an enlarged travelling collection, to be selected from Her Majesty's private collection and the National Museum in their charge.

This offer, though late in the season, was gratefully accepted, and steps were immediately taken to arrange for the reception of the expected treasures, and for their safe custody. It was at the same time intimated from Head Quarters, that this loan collection ought to be supplemented by local contributions of Pictures, Works

of Art, and Virtu; your Council felt the paramount importance of this suggestion, and a sub-Committee was accordingly formed to carry this object into effect. The result of their exertions was eminently successful, and the Exhibition in the new Philosophical Hall, at Leeds, although nearly improvised, will be long remembered as one of the most valuable and popular sources of instruction and amusement which was ever before presented to our large community. Your Council should not omit to avail themselves of this public occasion to make a grateful acknowledgment to the Town Council, and especially to the Watch Committee, for their considerate assistance in affording them the necessary police guard for the secure protection of the valuable property so kindly entrusted to the Society for this Exhibition.

MUSEUM.

As might have been anticipated from the increased space afforded by the enlargement of our building, and the greater facilities given by this means for the useful display of the specimens, the Museum has never in any previous year been so enriched with rare and valuable contributions. Foremost amongst the important donations must be placed the great Bengal Tiger. This superb animal was shown by Colonel Charles Reid, C.B., in the Indian Court of the International Exhibition last year, and has been pronounced by Professor Owen to be unequalled in Europe, either for its extraordinary size or its artistic and life-like setting up. The entire cost of this splendid specimen, including its purchase

and various incidental expenses, has been defrayed by the munificent liberality of Mr. William Gott. It has been fitly placed in the centre of the large Zoological Room, and is always the most attractive object in that collection.

Another generous friend, Mr. George Noble, was so kind as to place the sum of £60 in the hands of our Assistant Curator (who was about to proceed to London), for the purpose of purchasing such specimens for our Museum as it was thought most desirable to obtain. By this opportune aid, Mr. Denny has been enabled to add to our collection a most valuable series of species, including the female and two cubs of that singular Carnivorous Marsupial, the Tasmanian Wolf: an animal now become nearly extinct. This picturesque group has been, like Mr. Gott's Tiger, also set up by Ward, of London.

Mr. Noble's gift has likewise enabled the Society to procure a fine specimen of the giant Kangaroo, Koala, Echidna, and two rare species of Colobus, besides other rare desiderata, which will be recorded more minutely in the list of donations to be annexed to this report.

The Quadrumana have received two other valuable accessions, one, that of a large and apparently unknown species of Semnopithecus, the other a good skeleton of a male Chimpanzee. The Society will be glad to hear, that a skeleton of an Anthropoid Ape in this compartment, purchased about seven years ago, and hitherto looked upon as a new species of Chimpanzee, has been recently examined with care by Professor Huxley, and Dr. Gray, and pronounced by both these eminent Naturalists, to be an undoubted skeleton of the Gorilla.

It is a curious coincidence, that it should be of the same age as the Chimpanzee just referred to. These are, therefore, very important specimens, as they illustrate in the most satisfactory manner the osteological and dental peculiarities of these two animals—the nearest yet found in affinity with human beings. It is gratifying to think that our Museum has been in possession of such a treasure as a complete skeleton of the Gorilla, long before the recent explorations in Western Africa had given that animal so much celebrity.

A valuable addition has been made to the class of Ruminants in our collection. One of the finest of these specimens is the male Bison, promised to the Society by the late Marquis of Breadalbane, and kindly presented in consequence by his successor.

Captain Edmond Smyth, of Her Majesty's Indian Army, has presented us, through his father's friendly intercession, with a splendid specimen of the great Indian Yak, and a male and female Argali. These are amongst the rarest and most important acquisitions that could be added to our collection. Colonel Sykes, M.P., with a patriotic recollection of his native county, has presented us with a large collection of Quadrupeds and Birds, formed during his long military service in India. Unfortunately many of these specimens were rendered totally useless, in consequence of having been left undisturbed in their packing cases for several years. However, numerous fine examples have been obtained from this collection, which the Society were not likely to acquire from any other source for years to come.

Dr. Heaton, your Librarian, has presented us with a fine head and horns of the Canadian Moose Deer.

The Earl of Tankerville has presented us with the skeleton of the Chillingham Ox, supposed by some to be the type of the aboriginal British species.

Mr. Edward Atkinson, whose numerous donations to your Museum during his long residence in Jerusalem, would of themselves constitute a respectable collection, has this year given us a perfect skeleton of the Camel, and Hyrax, and the preserved skins of several other quadrupeds, from Syria.

Lord Londesborough has sent us, within the last few days, a case containing numerous preserved skins of Egyptian Birds, and a fine example of the Monitor Lizard. These specimens were obtained by his Lordship during a recent sporting tour in that country, and specially preserved for our Museum. His Lordship has at the same time, considerately intimated his wish to defray the expense of the setting up of any, or all of these specimens.

Mr. George Morley, lately a Member of your Council, has presented us with a valuable series of Birds and Reptiles, also procured during a tour in Egypt last year.

Dr. Lindley has presented us with twenty-eight specimens of Birds, and a section of the Douglas Pine, from British Columbia.

Mr. James Holt, of Sydney, New South Wales, has presented, through his brother, Mr. Joseph Holt, of Leeds, a very valuable case of Australian Birds, in the finest plumage, most of them extremely scarce and beautiful. Besides this case of Birds, Mr. Holt has sent us a case of Australian Insects, and a specimen of a rare species of poisonous snake.

But one of the most interesting donations which the

Department of Natural History has received this Session is a complete series of British Butterflies, contributed by Mr. Walker Joy. This most beautiful and instructive collection, is the result of the unwearied industry, and scientific research of many long years, and it is impossible to over-estimate its importance to students in Entomology.

In the Department of Archæology, the Museum has obtained by purchase from the funds of the Society, a fine specimen of a Mosaic Pavement, supposed to have formed the floor of a bath in the ancient Roman town of Isurium, near Boroughbridge, in this county. It is a very perfect example of the style of that art during the Roman occupation, and is especially interesting, not only from its local association, but from its figurative representation of the well known legend of Romulus and Remus, which has not been hitherto found in this country on any other Roman tessellated work. This Department has also received another remarkable addition, in the donation of an inscribed Mural Stone, presented by Dr. Hammond, who has made a transcript and English translation from it. He brought it from Nablus, the ancient Biblical City of Shechem, and it turns out to be a Samaritan version of the Decalogue, of extreme antiquity.

The Council must notice here also the valuable acquisition of a Peruvian Mummy. For this interesting specimen, the Society is indebted to Mr. John Holmes, one of our Subscribers, who liberally contributed a great part of the purchase money.

The Library has received so many contributions lately, that it begins to expand into respectable dimensions.

Already the extensive ranges of shelves in our large new room, look tolerably well filled, and it promises to become in a short time, a valuable depository of scientific works of reference.

It would be unreasonable to occupy the attention of this meeting, with a minute enumeration of all the donations to the Museum, and Library during the past year; your Council, therefore, beg leave to refer you to the appendix to the Report when printed, as it will furnish this information in detail. However, there are two very remarkable donations which cannot be passed over without special notice on this occasion. These are two valuable Paintings; the first, a well known picture of Dogs worrying a Cat, painted by Schwanfelder, and presented to the Society by Mr. John Goodman; the other, an equally well known picture of the old Moot Hall, in Briggate, painted by Joseph Rhodes, and presented by his namesake, Mr. John Rhodes. Both paintings are fine specimens of the works of distinguished Leeds Artists, and worthy of being made a fitting nucleus for a public local collection. It is to be hoped that the patriotic example thus set by these considerate and liberal friends of the Society, may be soon followed by others, who only require to have the way pointed out to them, by which such contributions might be usefully bestowed, and gratefully appreciated by their fellow townsmen in after years.

While on the subject of the Museum, your Council have been anxiously considering how they could meet the wishes of an important section of the Members of the Society, by the addition of an Industrial Department. For this purpose, a sub-Committee was appointed from

their body, to confer with the Chamber of Commerce, and those friends of our Institution, who were interested in this movement.

Several special Meetings and Conferences were held on this subject, and it was finally resolved to give up the present Archæological Room for the reception of an Industrial Collection, and to appropriate the Vestibule and ground floor Lobbies, to the Ethnological Collection, subject to the approval of its Curator. This arrangement, however, is understood to be contingent upon the Society's procuring sufficient funds for the purpose, after liquidating their present debt.

Your Council have not been inattentive to a Resolution passed at a General Meeting on the 11th of February last. In compliance with the general desire then expressed, an official application was made to the authorities at South Kensington, for assistance in the proposed formation of a Department of Industry, by the grant of donations of such duplicate specimens as could be conveniently spared from their extensive depôts, for so useful an object. This application was dated 14th February, and considerably entertained; for an official answer was received on the 28th of that month, stating that, in compliance with our request, certain specimens from the animal and food products and other departments of the South Kensington Collections, were being selected and arranged for us, and that we should have a further communication when they were ready for transmission.

Your Council have long felt the inconvenience and insecurity of the admission of visitors to the Museum by tickets. After carefully considering how this difficulty might be overcome in the most effectual way, they resolved

to have recourse to the simple expedient of payment at the door, and admission through a recording turn-style. They hope that the first expense incurred for the construction of this apparatus will ultimately prove to be an economical and satisfactory outlay.

Your Council regret that the Museum has remained so long closed to the public. The Members, however, will recollect that a considerable portion of the larger specimens were stored away in packing cases, and removed to a distance from the premises, during the progress of the new Building, while those objects that could not be safely removed, were closely packed into the old Zoological Room. When the new Hall was opened with an Exhibition, the most striking and attractive objects were hurriedly set up in the new Zoological Room, chiefly with a view to temporary display. Under these circumstances it will be evident, that the entire Museum required a complete re-arrangement, and scientific classification. This serious work has been undertaken by our Assistant Curator, Mr. Denny, and it has now advanced so far under his unremitting exertions, that your Council look forward to the re-opening of the Museum, in a few weeks. They confidently trust, that the Society and the public will be amply recompensed for this unavoidable delay, and that the Leeds Museum, will henceforward assume a foremost place amongst all similar Institutions in this country.

From the Meteorological Register kept at the Hall the following abstract is derived, to show the monthly averages for the past year:—

1862.	Mean Temperature.	Mean Height of Barometer.	Total Amount of Rain in Inches.
January	36	29.446	1.265
February	39	29.715	0.360
March	38	29.343	2.710
April	44	29.618	1.280
May	52	29.523	2.990
June	54	29.488	1.945
July	56	29.480	1.835
August	57	29.563	1.505
September	53	29.677	1.940
October	48	29.453	4.215
November	36	29.627	0.370
December	42	29.587	1.325

The greatest degree of Heat, as indicated by the Thermometer, in the sun, was 108°, on the 1st June; greatest in the shade 73°, on the 24th July, and minimum 21°, on the 19th July.

The greatest Barometric pressure was on 9th February, being 30,300, the temperature of the Mercury being 44°. The least pressure was on the 12th of June, being 28,800, temperature of Mercury 61°.

The greatest fall of Rain was on the 30th of May, being 1.240.

ADDITIONAL SUBSCRIPTIONS

TOWARDS

THE BUILDING FUND.

£.		£.	
John Gott 3rd Sub.	100	Dr. Heaton 3rd Sub.	20
William Gott do.	100	W. H. Conyers 2nd Sub.	10
S. J. Brown do.	100	G. S. Beecroft, M.P. do.	20
J. G. Marshall 2nd Sub.	50	Edward Baines, M.P. do.	10
H. C. Marshall do.	50	R. B. Turner do.	25
Arthur Marshall do.	50	Joseph Wilkinson	20
James Brown, M.P. do.	50	Reginald Dykes Mar-	
Rev. J. A. Rhodes do.	50	shall 2nd Sub.	10
Arthur Lupton 3rd Sub.	50	Messrs. Shaw and	
John Cooper 2nd Sub.	50	Tennant 3rd Sub.	20
Andrew Fairbairn do.	50	C. G. Maclea 2nd Sub.	20
John Rhodes 3rd Sub.	50	Edward Schunck do.	25
James Kitson 2nd Sub.	50	Christopher Kemplay do.	20
T. W. Stansfeld do.	50	Walker Joy do.	25
William Brown do.	50	Richard Nicholls do.	21
S. T. Cooper do.	50	George Taylor do.	30
F. W. Tetley do.	50	W. J. Armitage do.	10
W. N. Nicholson do.	50	The Farnley Iron Company . .	20
Titus Salt	50	R. L. Ford 2nd Sub.	10
William Beckett Denison	50	P. O'Callaghan 3rd Sub.	5
Do., by sale of Ticket	25	Joseph Holt 2nd Sub.	5
T. Hawkshaw, C.E., <i>London</i> . .	50	J. M. Barwick do.	5
John Calverley	20	Edward Irwin do.	10
Joseph Cliff 2nd Sub.	10	Thomas A. Titley do.	5
T. W. George	20	Thomas Walker do.	5
T. P. Teale 3rd Sub.	25	Cyril Graham	5
Henry Oxley 2nd Sub.	10	Sir R. Alcock, K.C.B.	5
W. W. Hewitson do.	25.		

DONATIONS AND ADDITIONS

TO THE

SOCIETY'S MUSEUM.

Those marked thus () are Honorary Members; thus (+) Members of this Society.*

MINERALOGY AND GEOLOGY.

- Mica Schist, from the Malvern Hills; Specimens of Shale, from Calverley, Moortown, and Rawden, containing Specimens of Pecten Papyraceus, and Goniatites Listeri; Basalt from Rowley Rag; Blue Lias, from Stratford-on-Avon; Amethystine Quartz; Calcareous Spar; and a Series of Geological Specimens from Kirkby Stephen, Westmoreland } Mr. John Dixon.
- Two portions of the Cores of the Horns of Bos Urus, found in excavating for the sewerage, Hunslet } †Mr. E. Filliter, Borough Surveyor.
- Canine and Molar Teeth, and a portion of the Radius of a Bear; Jaws of the Badger; Jaws and Teeth of the Hare, from the Victoria Cave, near Settle } Mr. Jos. Jackson, Settle.
- Eighty Specimens of rare and interesting Minerals, from Cornwall, mostly new to the Society's Collection } Mr. George Matthewman, Redruth.
- An interesting Collection of Shells, from the Clyde Valley Deposit, near Glasgow } Mr. James Smith, F.G.S., Jordan Hill.
- Three Fossil Fish, from the Limestone formation above Tripoli, on the Syrian Coast } Mr. W. P. Smith, C.E.
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- A valuable Collection of Spanish Minerals, from the International Exhibition } Presented by the Spanish Government.

- Very fine Specimen of Sapphire †Mr. P. O'Callaghan.
- Specimens of Iron and Steel in various stages of Manufacture, from Sweden .. } The Swedish Commissioners.
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ZOOLOGY.

- Very fine Specimen of Limulus } Capt. Anderson, Everton, Liverpool.
- Patagonian Cavy; Viscacha; Black-tailed Kangaroo; Malabar Squirrel; Raffles's Squirrel; Flying Squirrel; Condur; Sacred Ibis; Jabiru; Pair of Viellot's Gallophasis; Three Species of Hornbill; Long-eared Podargus; Paradise Jacamar; Curassow } By Exchange with the Liverpool Free Museum.
- Fine preserved Specimens of the Magpie and Jay } *Mr. George Lane Fox, Bramham Park.
- Specimens of the Hudson's Bay Lemming; Myrmecobius Fasciatus; Phascogale Penicillatus; Marsh Harrier; Dartford Warbler; Eggs of the Cassowary and Emu; Skeleton of the Ground Hog (Aulacodes Swinderianus); Glutton; Young Specimen of the Beaver } Purchased by the Society.
- Several Lepidopterous Insects, from India Mr. W. S. Wade.
- Male, Female, and Five Young Ones of the Red Grouse; and Female of the Sparrow Hawk } †Mr. P. O'Callaghan.
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- Very fine Skeleton of the Wombat; Casts of the Hand and Foot of the Gorilla, and of the Brain of the Elephant; and a rare species of Penguin } Purchased by the Society.

- Two Heads and the Foot of a Mummy;
Two Mummies of the Ibis; Fruit of the
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- Fine Section of the Douglas Pine and
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- A valuable Collection of Specimens, con-
sisting of the Female Thylacinus, or
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- Specimens of the Stump-tailed and Spiny }
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- Extraordinary large, and apparently un-
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- Skull of the Babyrussa †Mr. J. P. Calvert.
- Thirteen British Birds Mr. H. E. Brameld.
- Skeleton of the Cow of the original white }
or Chillingham Breed of Oxen } The Earl of Tankerville.
- Very fine Specimen of the Male Bison, } *The Most Noble the Marquis
from Taymouth Castle } of Breadalbane.
- Pair of the Californian Quail †Col. Child.

- A valuable collection of Specimens of } *Col. Sykes, M.P.
 Quadrupeds and Birds from India }
- Specimen of the Lump Fish Mr. William Hill.
- Male and Female Stoat; Do. of the } †Mr. Scattergood.
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- Eighteen Skeletons of Quadrupeds and } Mr. Samuel Blaxland.
 Birds }
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- Thirty-six Birds; Two Quadrupeds; a } *Mr. James Holt, Sydney,
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 and a rare Species of Poisonous Snake, } Leeds.
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- Nineteen fine Skins of Birds and a Monitor } Lord Londesborough, Grim-
 Lizard from Egypt } ston Park.
- Twelve prepared Jaws of the Horse to } †Mr. J. Cuthbert, Leeds.
 show the Dental characters at different }
 ages, also the bones of the foot of the }
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 recorded Species, consisting of Three }
 Hundred Specimens in the highest state }
 of preservation }
- Cast of the Brain of the Gorilla †Mr Alexander Falkner.

MISCELLANEOUS.

- An Arrow Head, taken from one of the } Rev. B. Eamonson, Colling-
 beams of the roof of Collingham Church, } ham.
 in 1840 }
- Bayonet Pouch, Percussion Caps, and } Mr. H. S. Smeeton.
 Bread from the Field of Inkerman }

- Fragments of Painted Glass, from the Old Hall of Norton Conyers; Musket Balls, from Marston Moor; Antique Leather Bottle, from the Old Hall, Allerton, Mauleverer; Malayan Kris, inlaid with Gold; Breastplate of the latter part of the XVII. Century; Antique Cross Bow; Florentine Dagger, inlaid with gold, XVI. Century; Man-at-Arms Swords, XVI. Century; Scottish Claymore, 1745, found at a spot called Palmer's Flat, near Hawes; Sword, latter part of the XVI. Century, found near Knaresborough; Basket-hilted Sword, time of the Commonwealth, found near Worcester Battle-field; Basket-hilted Sword, XVII. Century, found in an old house near Cawood; Small Sword, Toledo Manufacture, XVII. Century, inscribed; very large and beautifully Carved Paddle and Club, from New Zealand; Bow and Arrows, from New Zealand; Three Darts, from South Africa; Stone Mortar, inscribed T. E. C., A.D. 1665, found in an old house in North Street, Leeds; Stone Corbel, from the old Parish Church, Leeds
- Mr. John Dixon, Leeds.
- Remarkably fine Mosaic Pavement, supposed to have formed the bottom of a Bath, from Aldborough, the ancient Isurium of the Romans
- Purchased by the Society.
- Two Horns of an Adult Roebuck, found with Antlers of the Stag and Fallow Deer; and various Roman Remains at Aldborough; an interesting Collection of Sepulchral Figures, in Wood, Porcelain, and Metal; Scarabæi; &c., &c.; from the Tombs at Thebes
- † Mr. John Rhodes.
- Curiously formed Implement of Wood, from the South Seas
- † Dr. Heaton.
- Bomerang, Waddy, and other Weapons, from Australia
- Mr. Ralf Salt.
- Portion of the Cable of a Russian Line-of-Battle-Ship, sunk at Sevastopol by the Russians after the Battle of the Alma, after two years submersion
- Mr. Henry Dixon, Park Square.
- Helmet and Front and Back Cuirass, of the time of Charles II.
- † Mr. N. Sharpe.

- A Greek Coin from Catania; Large Brass of Vespasian; Second Brass of Gordianus; and Five Brass Greek Coins, from Sicily } Mr. S. Smith.
- Samples of Wool, Flax, Silk, and Cotton, &c., from Queensland..... } Mr. M. H. Marsh, M.P.,
Commissioner for Queens-
land.
- Seventeen varieties of Cochineal Messrs. Jewsbury, London.
- Model of a Double Ferry Boat used by the Indians, of native manufacture } Mr. D'Cunha.
- Two Silver, one Gold, and one Gold-plated Coin, from Japan; Specimens of various kinds of Japanese Paper } *Sir Rutherford Alcock,
K.C.B.
- Oil Painting of Terriers worrying a Cat, by C. H. Schwanfelder } Mr. John Goodman.
- Oil Painting of the Old Moot Hall in Leeds, by Rhodes } Mr. John Rhodes.
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- A Series of Specimens of Gelatine, prepared for Commercial purposes } Mr. Green, Islington.
- Thirteen Musical Instruments, from China; Club and other Weapons, from New Zealand; and Hammock from the South Seas } Mr. C. Empson.
- Walker's Engraving of the distinguished Men of Science of Great Britain, living in the years 1807-8, handsomely framed and glazed } Mr. T. W. Stansfeld.
- Original Quack Doctor's Advertising Bill, dated Leeds, Sept. 16th, 1768, found in the Walls of the old Unitarian Chapel, in Call Lane, during its restoration in 1862; Portion of a Bronze Fibula, found at Nevill Holt, Leicestershire, June, 1862; Specimens of Spurious Flint Arrow Heads, manufactured in London } Mr. P. O'Callaghan.
- Copy of the Leeds Mercury for Tuesday, March 28th, 1732 } Mr. J. Herfield, Leeds.

LIBRARY.

- The Physical Atlas of Natural Phenomena, by Alex. Keith Johnston: 4to.; Sketches in Scotland, by S. D. Swarbreck: folio; an Historical and Descriptive Account of the Suspension Bridge constructed over the Menai Strait, by W. A. Provis: elephant folio; the Works of Eminent Masters in Painting, Sculpture, Architecture, and Decorative Art: 2 vols. 8vo. } Mr. Henry Holt, C.E.
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- Memoirs of the Manchester Literary and Philosophical Society: vol.; Proceedings of do., Laws and Regulations } The Manchester Literary and Philosophical Society.
- The Greenwich Observations for 1860 } The Lords' Commissioners of the Admiralty.
- Report of the Royal Cornwall Polytechnic Society for 1861 } The Royal Cornwall Polytechnic Society.
- Maes-Howe: Notice of Runic Inscriptions, discovered during recent excavations in the Orkneys, made by James Farrer, M.P., printed for private circulation } Mr. James Farrer, M.P., Ingleborough House.
- On the Evidence of the Antiquity of Man, afforded by the Physical Structure of the Somme Valley (Pamphlet) } Mr. John Lubbock, F.R.S., the Author.
- Proceedings of the Royal Society of Van Diemen's Land: vols. 1, 2, and parts 1 and 2 of vol. 3; Reports of do. for 1849 to 1859; Meteorological Observations taken at Hobart Town, in the years 1856, 1857, and 1858: folio; Catalogue of Books in the Library of the Royal Society of Van Diemen's Land, 1856; Catalogue of Plants in the Royal Society's Gardens, Hobart Town } The Royal Society of Tasmania, through Dr. Milligan, of Tasmania.
- Astronomical and Meteorological Observations made at the Radcliffe Observatory, Oxford, 1859 and 1860: vol XX..... } The Radcliffe Trustees, Oxford.
- Journal of the Chemical Society for 1862 } The Chemical Society.

- Memoires de la Societe Royale, D'Emulation, D'Abbeville, 1841 to 1860: 5 vols.; De la Creation, Essai Sur l'Origine et la Progression des Etres, par M. Boucher de Perthes: 5 vols., 12mo.; Les Masques: Biographie Sans nom. Portraits de Mes Connaissances dedies a mes amis, Par M. Boucher de Perthes: 2 vols., 12mo. } *M. Boucher de Perthes, &c., Abbeville.
- The Iliad of Homer, faithfully translated into unrhymed English Metre, by F. W. Newman } The Society of Arts, London.
- Report of the Royal Institution of Cornwall, 1862..... } The Royal Institution of Cornwall.
- The Canadian Journal of Industry, Science, and Art: Nos. XXXIX., XL., XLI., XLII., XLIII..... } The Committee of the Canadian Institute.
- Notes on the Thysanura, from the Linnean Transactions (Pamphlet) } Mr. John Lubbock, F.R.S., the Author.
- Notices of the Proceedings of the Royal Institution of Great Britain for 1861 .. } The Royal Institution of Great Britain.
- Proceedings of the Liverpool Philomathic Society: vols. 1 to 7 } The Liverpool Philomathic Society.
- History of the Priory and Peculiar of Snaith, in the County of York, 8vo. .. } Rev. C. B. Robertson, M.A., the Author.
- Proceedings of the Literary and Philosophical Society of Liverpool for 1862 } The Liverpool Philosophical and Literary Society.
- Journal of the Geological Society of Dublin } The Geological Society of Dublin.
- Journal of the Royal Dublin Society: Nos. XXIV., XXV., XXVI., XXVII., XXVIII } The Royal Dublin Society.
- Official Catalogue of the International Exhibition for the Kingdom of Italy .. } Mr. O'Callaghan.
- The Annual Register from the commencement to 1833: 75 vols., half-bound } Mr. John Rhodes.
- Transactions of the Historic Society of Lancashire and Cheshire: vol. XIII. .. } Historic Society of Lancashire and Cheshire.
- Histoire, Naturelle, Generale et Particuliere, avec la Description du Cabinet du Roi, par Buffon et Daubenton: 27 vols., 12mo. } Mr. W. S. Ward.

- Transactions of the American Philosophical Society : vol. XII., part 2 } The American Philosophical Society, Philadelphia.
- Original Drawing of the Ground Plan of Uriconium } Mr. Edward Davis.
- On the Carboniferous Limestone of Oretton and Farlow, Clee Hills, Shropshire, by Professor J. Morris ; Coal, its Geological and Geographical Position, Professor J. Morris } Professor John Morris, London, the Author.
- Proceedings of the Academy of Natural Sciences of Philadelphia : parts 7 to 12, 1862 } The Academy of Natural Sciences, Philadelphia.
- Report of the British Association for the Advancement of Science, Manchester, 1861 } The British Association for the Advancement of Science.
- Proceedings of the Berwickshire Naturalists' Club, 1862 } The Berwickshire Naturalists' Club.
- Proceedings of the Zoological Society of London for 1862 } The Zoological Society of London.
- Journal of the Geological Society of London for 1862 } The Geological Society of London.
- The Transactions of the Royal Society of Edinburgh : vol. XXIII., p. 1 } The Royal Society of Edinburgh.
- Smithsonian Miscellaneous Collections : vols. I., II., III., IV., 8vo. } The Smithsonian Institution, Washington.
- Monthly Notices of the Royal Astronomical Society for 1862 } The Astronomical Society.
- Report of the Yorkshire Philosophical Society for 1862 } The Yorkshire Philosophical Society.
- Proceedings of the Geological and Polytechnic Society of the West Riding of Yorkshire for 1861 } The Geological and Polytechnic Society.

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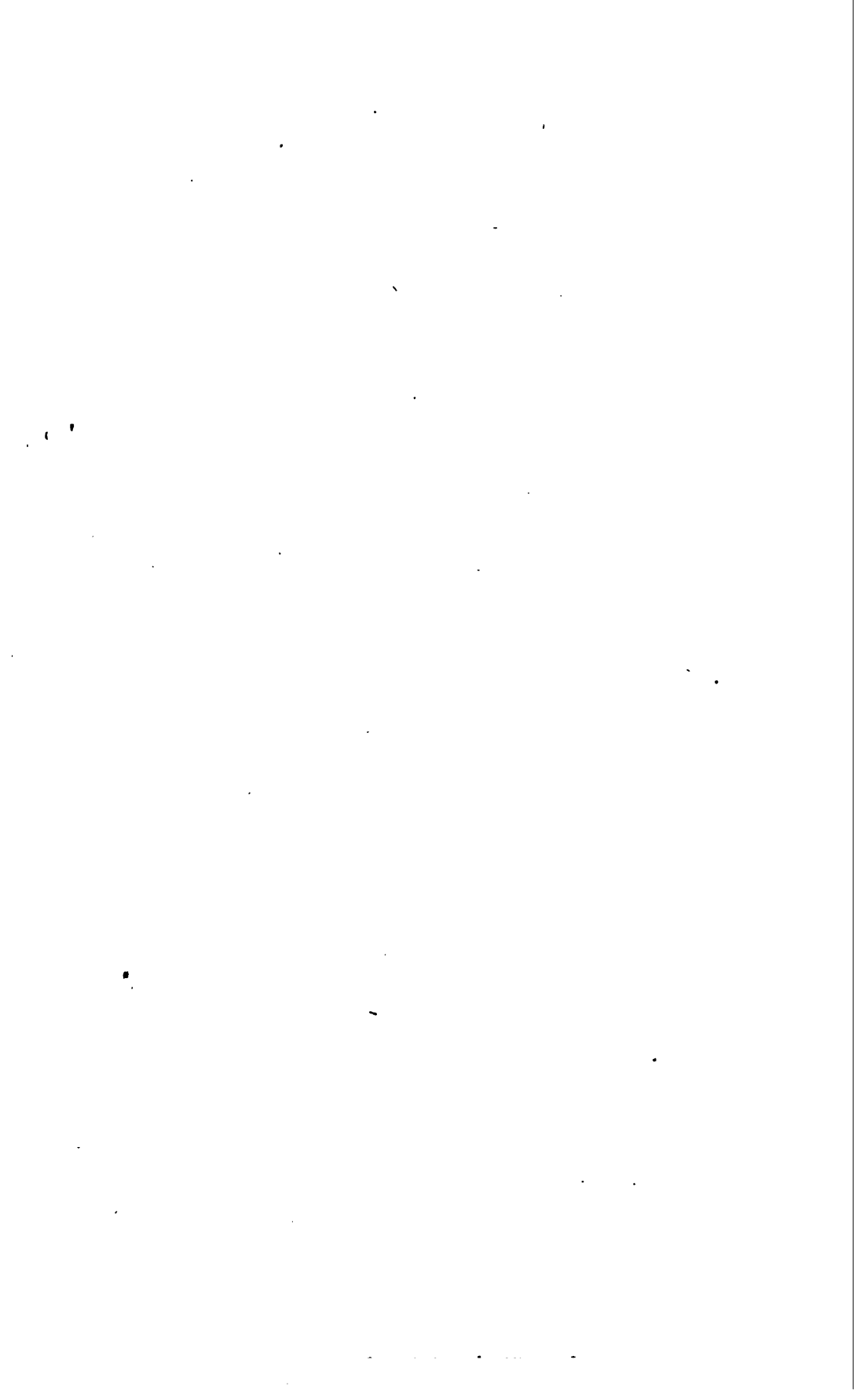
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*to Boston Natl. Hist. Socy
for the Leeds Phil. Socy
May 1 - 1865*

LEEDS
PHILOSOPHICAL & LITERARY SOCIETY.

THE ANNUAL REPORT
FOR 1863-64.

~~1865~~ 5221

Boston Society of Natural History.

From *the Leeds Philosophical
and Literary Society.*

Received *May 1 - 1865*

FORTY-FOURTH REPORT
OF
THE COUNCIL
OF THE
LEEDS
PHILOSOPHICAL & LITERARY
SOCIETY,

AT THE CLOSE OF THE SESSION

1863-64.

READ AT THE ANNUAL MEETING, MAY 3RD, 1864.

LEEDS :

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MDCCCLXIV.

IMPORTANT RULE

RESPECTING THE PROPERTY OF THE SOCIETY;

PASSED OCTOBER 8TH, 1860.

That in the event of the dissolution of this Society, its Property and Effects, whether real or personal, shall not be disposed of for the personal benefit of the Members, but shall be appropriated in such manner for the advancement of Science, Literature, or Art, in the town of Leeds, as shall be determined by a majority of the Members, at an extraordinary Meeting to be convened for that purpose. But that no dissolution of the Society shall take place without the consent, in writing, of a majority holding not less than two-thirds of the Proprietary Shares.

FORM OF A BEQUEST TO THE SOCIETY.

Every person desirous of bequeathing to the Society any Sum of Money, Specimens, Books, Instruments, or other Property, is requested to make use of the following Form :—

I give and bequeath to the Trustees for the time being of the Society established at Leeds, called "THE LEEDS PHILOSOPHICAL AND LITERARY SOCIETY," for the use of the said Society, the sum of _____, to be paid out of such part of my personal Estate as I may legally charge therewith. [Or here enumerate the Effects or Property intended to be bequeathed.] And I direct that the Receipt of the Treasurer of the said Society for the time being, shall be an effectual discharge to my Executors for the said Legacy.

REPORT OF THE COUNCIL

AT THE CLOSE OF THE

FORTY-FOURTH SESSION.

In taking a retrospect of the proceedings of the Society at the termination of its forty-fourth session, the Council have the satisfaction to report that no diminution of that prosperity which was so gratifying a feature at the last Annual Meeting has manifested itself, and that both as regards its financial and numerical position, the Society is in a prosperous state. From the unprecedented number of new Members and Subscribers who joined the Society at the inauguration of the new building, it could not be reasonably expected that any similar augmentation would occur. Nevertheless 76 Members and Subscribers have been elected during the past Session. In consequence, however, of several unusually heavy but unavoidable items of expenditure, trenching upon the ordinary funds, having occurred, the balance in favour of the Society is not so large as at the close of last year. But it is confidently anticipated that with the lessened claims for

next Session a similarly healthy condition may be easily regained. When all disbursements have been met it is expected there will be about £100 in the Treasurer's hands.

In the last Report reference was made to the additional amount which would be required to liquidate all claims upon the Society for the alteration of the Building, and a hope was also expressed that this sum would soon be contributed. In consequence, however, of the various calls upon the public for different local objects this expectation has not been fully realized. The entire amount received has been £11,128. 15s. 8d., while the cost has been £11,515. 13s. 11d., so that a deficiency of £386. 18s. 3d still remains against the Society! The labours of the Building and Canvassing Committees are virtually at an end, but the Council venture to repeat their hope that the Members and friends of the Society will not long allow so small a sum comparatively speaking to remain due to the Treasurer, as both the principal and interest will alike press upon the Society's resources and necessarily curtail its usefulness. For although the annual income from the great addition of new Members has considerably increased, the enlargement of the Building has also added proportionately to the necessary expenditure, and as the latter has probably not reached its full amount, it becomes a point of absolute economy so to husband the resources of the Society as to meet any unforeseen contingency in the current expenses which may occur.

Although the Council have, on several former occasions, had the melancholy duty of recording the removal by death of early and valuable Members, they have never had a more painful one than that now imposed upon them by the great loss which the Society has sustained in the death

of Mr. William Gott. The late Mr. Gott had from the first formation of the Society taken the most lively interest in its advancement, and especially in the improvement of the Museum, and was always ready with his purse to assist in the purchase of desirable objects, so as to illustrate the various departments in an efficient manner, and the Society is indebted to his liberality for some of the most valuable and costly specimens of which the Museum can boast. As soon as the plan for enlarging the Hall was suggested to him he entered most heartily into the project, and promised his influence and warm support, and to his own munificent contribution to the Building Fund, his valuable aid as a canvasser for subscriptions, and the great interest which he took in all the necessary details during its erection, as Chairman of the Building Committee, the Society are mainly indebted for the success which has crowned their efforts in the erection of a building alike honourable to the town and the country at large. The Exhibition of Art Treasures which formed so prominent a feature at the inauguration of the New Building, owed much to Mr. Gott's contributions from his valuable library of early printed books, pictures, and articles of virtu, which were placed entirely at the disposal of the Society. The Council feel that the removal of Mr. Gott has left a blank which will long be felt not only by this Society but by every public institution which had for its object the welfare of his native town, and they venture to express a hope that at no distant date some lasting memorial of Mr. Gott may be placed in the Society's Hall.

By the removal from Leeds of Mr. O'Callaghan the Society has lost the services of an active and valuable officer. During the last seven years Mr. O'Callaghan

has held the important office of one of the Honorary Secretaries, and has devoted his entire time and energies for the benefit of the Society, and to his extensive acquaintance with men of science whom he has induced to read papers, his great tact in obtaining new Members and Subscribers, and his success in soliciting contributions to the Museum, the great improvement which is manifest in the general affairs of the Institution is largely to be attributed. During the erection of the new building he took great interest in its progress, and laboured zealously for subscriptions to the fund for that purpose. In recognition of these valuable services the Council invited Mr. O'Callaghan to a public dinner at the Queen's Hotel, on the 4th of April, which was attended by a number of influential Members of the Society. In the month of October last the British Archæological Association held its Congress in Leeds, under the presidency of the Lord Houghton, D.C.L., when the Council of this Society, anxious to further the objects of that Association, placed their suite of rooms at the service of the Members, who visited Leeds on that occasion, and formed themselves into a local Committee to make the necessary arrangements for their proper reception, and they are glad to know that the proceedings of the Congress were in every way satisfactory, to the members of the Association, both as regards the objects of interest, and the facilities afforded for their inspection.

PAPERS AND LECTURES.

The Papers read at the General Meetings have been of a varied and highly interesting character; and although

on three of the evenings the gentlemen whose names were announced to read papers were unavoidably prevented from fulfilling their engagements, their places were occupied at a short notice by gentlemen of well-known ability. These were as follows :—

1. "On the Relation of the Philosophical and Literary Society, and Kindred Institutions, to the Intellectual Wants of a large Manufacturing and Commercial Town." By the Rev. Thomas Hincks, B.A., President.
2. "On the Physical Constitution of the Sun." By Edward William Brayley, Esq., F.R.S., &c.
3. "On the Varieties of Man in the Malay Archipelago." By A. R. Wallace, Esq., F.R.G.S., &c.
4. "On Roger Bacon; his Life and Works." By Thomas Marshall, Esq., M.A.
5. "On Primæval Sepulture." By the Rev. W. C. Lukis, M.A., F.S.A., of Wath Rectory, Ripon.
6. "On the Geology of the North of England." By Professor Robert Harkness, F.R.S., F.G.S., &c.
7. "On the Pyramids of Egypt." By the Rev. Canon Trevor, M.A., &c., of York.
8. "On the Sources of the Nile, and on the main requisites for their final determination." By Dr. Charles T. Beke, F.S.A., F.R.G.S.
9. "On the Early Domestication of Animals." By Francis Galton, Esq., F.R.S., F.G.S., &c.
10. "On the Unity of the Human Species." By George Rolleston, Esq., M.D., F.R.S., Professor of Anatomy in the University of Oxford.
11. "On the History of Leeds before the Norman Conquest." By Thomas Wright, Esq., M.A., Corresponding Member of the Institute of France, &c.

During the Christmas vacation two Juvenile Lectures "On the History and Progress of the Electric Telegraph," were gratuitously delivered by Mr. Dodwell, of Manchester, with numerous illustrative experiments; and, in March, a course of four Lectures was delivered by Professor David Thomas Ansted, F.R.S., on the following subjects;—"The Influence of Water in Forming Rocks;" "The Influence of Water in Modifying Rocks;" "Granite, its Origin and History;" "On the Early Races of Men, and their Contemporaries."

CONVERSAZIONE.

The annual *Conversazione* was held in December last, and was attended by a very large number of the members and friends of the Society, on which occasion a great variety of objects of Art and Historical interest were exhibited, as also Paintings and Photographs. At this meeting Mr. Manning exhibited the Model of the *first Locomotive Steam Engine* successfully employed on a railway, which was the more interesting from the fact that it was designed by one Leeds man (Mr. Blenkinsop), and made by another (Mr. Matthew Murray), and worked on the line of the Middleton Colliery tramway to Leeds, on the 12th of August, 1811, two years before Stephenson started his first Locomotive. Mr. Manning presented a beautiful Photograph of Blenkinsop's Locomotive Engine, framed and glazed, to the Society. After the close of the Art Treasures Exhibition last year, considerable re-arrangement of the Specimens became necessary, which prevented the opening of the Museum to the public until the 25th of May; since which period, however, upwards of 35,885 persons have visited it, ex-

clusive of Members and those whom they have introduced, which is a gratifying proof of the increasing interest taken by the public in such Institutions. The receipts from this source have amounted to £149 10s. 5d.

MUSEUM.

The Museum continues to receive many valuable accessions by donations, and as an educational collection for illustrating the higher groups in Zoology, is probably second to no provincial Museum in the kingdom.

The Earl Fitzwilliam has presented specimens of the Nylghau, Wombat, Arctic Dog, Cape Sheep, Demerara Sheep, Kangaroo, Armadillo, and Black Swan, all in a fine state of preservation.

Mr Salt, of Methley Park, having most liberally offered to kill one of his finest specimens of Alpaca, for the Society's Museum, the Council while accepting the valuable present, considered that so good an opportunity for enabling the Members to partake of the flesh, of this only partially acclimatized animal should not be lost, accordingly a dinner was prepared at the Queen's Hotel, where about 60 gentlemen assembled, and the Council had the pleasure of receiving Mr. Salt as their guest.

Mr. Arthur Lupton has presented fine specimens of the Crested Penguin, and 'Tangalung, and several beautifully preserved Fishes from the Mediterranean.

To Mr. Hartley, of D'Urban, Port Natal, the Society is indebted for a fine skull of the Male African Elephant, a tusk of the Female Elephant, Horns of Double Horned Rhinoceros, and Horns of the Gemsbok, Blawbock, Eland, Hartebeste, Koodoo, and other Antelopes of South Africa.

Mr. Walker, of Stanley Hall, has again enriched the Museum by a further contribution of 49 Birds, and two specimens of the Hyrax from Africa.

From Mr. R. B. Turner, has been received, a remarkably fine mature specimen of the Beaver, a genus long in request by the Society, and a specimen of the Genus *Polypteris*, an important illustration of the existing Ganoid Fishes, has been presented by Mr. Andrew Fairbairn.

The representatives of the late Mr. Hewitson have transmitted skins of the Adult and Young of the Three Toed Sloth, and also a Skeleton of the same animal, which specimens Mr. Hewitson had sent expressly for to British Guiana, a few months previous to his decease, to present to the Museum.

Messrs. Walker and Lomas Joy, have contributed to the British Lepidoptera a series of beautiful specimens of the Sphingidæ, and it is much to be hoped that similar contributions will be made to the other orders of Insects, which are very defective, as also to the Echinodermata, Crustacea, and British Land and Fresh Water Shells.

As several opportunities presented themselves for adding important Zoological specimens to the Museum by purchase, the Council have not allowed them to pass, and in making their selection of the most desirable, have been primarily guided in acquiring *Generic* or *Typical Forms*, as the most essential and instructive in a provincial Museum, where neither very extensive collections of species can be acquired, or the space to exhibit them obtained. By this plan therefore many rare and highly interesting examples of Mammalia have been secured, and especially in the Osteological department, the value of which as a basis for acquiring a sound knowledge of the relation of different

groups in the Animal Kingdom is now generally acknowledged, and by which alone, the beautiful and varied modifications of structure, as adapted to the diversified habits of the animals, can be correctly appreciated, amongst the most important specimens thus obtained, may be named Entire Skeletons of the Platypus, Manis, Armadillo, Lemur, Spermophilus, Chamæleon, Turtle, and Flamingo, a magnificent Skull of the Grizzly Bear, and the *immature* Skull of the Walrus, examples of which are rarely to be met with.

The principal additions in Geology and Mineralogy consist of a series of teeth and bones of the Rhinoceros and Hyæna, from Wokey Hole, in Somerset, presented by their discoverer, Mr. W. Boyd Dawkins, of the Geological Survey, London, and from Mr. Farrer, M.P., of Ingleborough House, a nearly entire Skeleton of the Fossil Red Deer, and a portion of an Antler of the Gigantic Irish Deer, from the Dowkerbottom Cave. This latter being the second instance only of the discovery of remains of this noble Ruminant in Yorkshire.

A series of remarkably fine specimens of Encrinital Stems and Casts, masses of Purple Fluuate of Lime, and Crystals of Calcareous Spar, from Derbyshire, have been received from Mr. W. H. Hebblethwaite.

ARCHÆOLOGY.

This Department has been more than ordinarily enriched by the acquisition of specimens of local and general importance. From the Rev. John Gott has been received a

valuable series of Greek Marbles, consisting of Altars, Mural Tablets, and Inscribed Stones, collected in Athens and other Greek cities by the late Benj. Gott, Jun., Esq. The interest of these relics will be much enhanced when the several inscriptions have been translated and more of their history thereby ascertained. The Rev. H. T. Simpson, Rector of Adel, has liberally deposited in our Museum the Altars, Querns, and other Relics obtained from the site of the Roman Station at Adel.

To Mr. Hartley, of Settle, the Society is indebted for an Ancient British Canoe, formed out of the solid trunk of a tree, found on the site of the old Tarn, at Giggleswick, in this county.

Mr. Farrer, M.P., of Ingleborough House, who has been prosecuting further researches in the Dowkerbottom Caves, in Craven, has transmitted a large Brass Coin of Antoninus, singularly interesting from the fact of its commemorating the supposed termination of the conquest of Britain; a fragment of a Flint Implement, a Bone Needle, the remains of a Child of the age of $2\frac{1}{2}$ years taken from its Romano-British grave, and the Skull and portion of a Jaw of an ancient Orcadian, from the Knowe, near Birsay, Orkney.

Mr. Samuel Scatcherd, of Morley, has presented several interesting antique objects, formerly belonging to his late father, Norrison Scatcherd, Esq., consisting of one of those rare instruments for domestic punishment, the Brank or Scold's Bridle; a Marble Tablet, representing the Annunciation, once the property of Sir Thomas Moore; an ancient Carved Oak Panel of the Crucifixion; several Swords, &c., of the time of Charles I. and George II.

LIBRARY.

The additions to the Library have been of an important character, amongst which the Council would more especially notice, a Subscriber's copy of Roberts's Egypt and the Holy Land, 6 vols. folio, superbly bound, presented by Miss Southerne; 35 separate works on Local Topography, and the Map of the Watling Street across the counties of Durham and Northumberland, presented by the Rev. John Gott; the Journal of the Archæological Association from its commencement, 18 vols. 8vo., presented by the late Mr. S. S. Jackson; 6 beautiful Vols. of the Ray Society's publications from John Smith, Esq; the Transactions of the Historic Society of Lancashire and Cheshire, 7 vols. 8vo., by that Society; the Life and Miscellaneous Works of Dr. Young, F.R.S., presented by Miss Chambers, his niece; the Canadian Journal of Science and Art, from its commencement, 6 vols. 8vo., from the Canadian Institute at Toronto; the Report of Her Majesty's Commissioners on the Public Records of the Kingdom, 2 vols. folio. Catalogue of the MSS. in the Cottonian Library in the British Museum, folio; Select Papyri in the British Museum, folio; and the Imperial Biographical Dictionary, presented by Mr. O'Callaghan.

The various British and foreign Scientific Societies continue to transmit their several publications, but the Library is still deficient in many standard works on the different branches of Physical Science, which are required as books of reference, as also several of the Scientific Periodicals. Since the last annual Meeting a MS. Catalogue has been prepared by which it will be seen the Library now contains about 2000 volumes.

Another addition has been made to the Picture Gallery,

which was commenced last year, consisting of a fine Oil Painting by Ruysdael, presented by Mr. Arthur Lupton; and the Council have also the pleasure of announcing that three beautifully Engraved Portraits have been presented to the Society—viz., Sir Joseph Banks, by Mr. Ford; Dr. Priestley, by Mr. Ward; and Rev. Richard Bentley, by Mr. O'Callaghan, who has also presented Holograph Letters of the two last eminent men; and they hope that Portraits and Letters of two other equally distinguished Leeds celebrities, *Thoresby* and *Harrison*, will at some future time find a place in the Hall.

The collection of British Plants which has been annually increasing for a number of years and arranged upon the Linnean system has been considerably enhanced in value and usefulness through the kindness of the Rev. C. H. Middleton, who has devoted much time and labour to the complete examination and entire re-arrangement of the specimens upon the Natural system, as given in Hooker and Arnot's British Flora. The individual species have been all re-mounted and numbered, according to the London Catalogue, and are now so placed in the Library as to afford a ready reference for the Botanical Student. Mr. Middleton says the Herbarium contains about 3-4ths of the known Flowering Plants.

The groups most deficient are the *Rubi*, *Hieraciæ*, *Salices*, *Equisetacæ*, *Characææ*, and *Filices*.

The Council have much pleasure in calling the attention of the Members to the present of a handsome Mahogany Case from Messrs. T. W. George and Company, which is now placed in the Vestibule and contains the collection of Weapons, Dresses, and various Implements, used by the natives of distant regions.

INDUSTRIAL MUSEUM.

In the report of the Council for last Session, the importance of establishing an Industrial Museum in connection with the Society's operations, was brought before the Members, together with a statement of what steps had been taken to obtain the necessary space, and also specimens to illustrate the various industrial arts. A Sub Committee was appointed by the Council consisting of three of its Members, viz., Mr. Nunneley, Mr. Ward, and Mr. Stansfeld, to carry out the preliminary arrangements, with authority to obtain the co-operation of Mr. Jowitt and Mr. Reynolds, who have held several Meetings, and their labours have been so far successful as to promise a speedy opening of the Room appropriated for the purpose. In furtherance of this object Mr. Wm. Glover Joy has presented a handsome Mahogany Case, containing samples of the different seeds from which Oils for Commercial purposes are expressed, with samples of the Oils in glass jars. Mr. Jowitt has also sent a handsome case of Colonial Wools: the Messrs. Jewsbury, of London, various kinds of Cochineal: Messrs. Ward, specimens illustrating Kelp and its products, and Mr. Green, of London, various kinds of Sheet Gelatine. The annexed Report of the Sub-Committee furnishes a detailed statement of their proceedings.

“The Industrial Museum Committee has carried on its operations for several months. Upon taking possession of the room previously devoted to objects of Archæology, the Committee fitted it uniformly with glazed cases of French polished deal, and they are sanguine that this mode of fitting will prove successful, both as to appearance and economy. The cost of these cases was nearly defrayed

by the very liberal grant of £150, made for the purpose from the surplus profits of the Industrial Exhibition, held in Leeds, in 1858. This fund is under the control of a Committee of which Mr. Darnton Lupton is Chairman.

“The specimens so long expected from the South Kensington Museum, arrived a few months since. The collection was necessarily very miscellaneous, from being composed of objects transferred to that Institution from the International Exhibition of 1862.

“The option of selecting from these which there was reason to anticipate would be allowed was not at last given by the authorities, although a Member of this Committee was at one time permitted to inspect and schedule the specimens for this purpose.

“The whole of the specimens were divided into twelve sets, and it was one of these that was sent to Leeds.

“It will furnish many very acceptable specimens for the Museum. The authorities of South Kensington have just added to the obligations due to them by presenting between 300 and 400 glass jars, for containing specimens; also a complete set of printed Tablets for describing a Food Collection.

“The Committee have brought the objects and claims of the Museum under the notice of the able Reporter on the products of India, Dr. J. Forbes Watson, of the India Museum, and they are much gratified at finding that this gentleman is anxious to extend the influence of the Department over which he presides by enlisting the services of Industrial Museums in the provinces in bringing before the manufacturing Communities, materials capable of industrial uses.

“Applications have been made to about 60 firms for specimens of the materials employed by them in various arts, and it is gratifying to add that hardly a refusal has been received, whilst in most instances the replies have been prompt and hearty.

“So far the applications have been confined almost entirely to matters derived from the animal and vegetable kingdoms and their manufactures.

“It is an especial object with the Committee to include illustrations of all appropriate branches of industry belonging to Leeds, though they do not desire to exclude other eligible specimens.

“Finally, the Committee have issued a circular containing general information for the guidance of contributors, and have adopted a special label for specimens in order to secure uniformity in appearance. They are glad to be able to state that although circumstances have rendered the preliminaries of the scheme lengthy, it is now realized, and the number of contributors whose specimens are ready will justify the room being opened to the public at Whitsuntide.”

LEEDS PHILOSOPHICAL AND LITERARY SOCIETY,

From MAY 6th, 1863, to JUNE 30, 1864.

RECEIPTS.

	£.	s.	d.
To Cash in Treasurer's hands	206	10	1
Do. in General Curator's hands	11	4	7½
Subscriptions of 80 New Proprietary Members at 21s. each	84	0	0
Do. of 32 Old Ordinary Members at 42s. each	67	4	0
Do. of 88 New Ordinary Members at 21s. each	91	7	0
Do. of 144 Old Annual Subscribers at 21s. each	161	4	0
Do. of 30 New Annual Subscribers at 21s. each	31	10	0
Do. of 133 Old Annual Subscribers at 5s. each	33	5	0
Do. of 50 New Annual Subscribers at 5s. each	12	10	0
Arrears of Subscriptions	30	3	0
Receipts at Conversations	10	15	0
Rent of Cellars	40	0	0
Rent of Geological and Polytechnic Society (Three quarters of a Year)	15	0	0
Rent of Lecture Room	22	1	0
Sale of Old Cases, and Sundry Receipts	8	17	0
Admission to the Museum	149	10	8
Interest from Bankers	8	11	0

£1061 1 1½

DISBURSEMENTS.

By Insurance	£.	s.	d.
Gas and Coke	13	7	0
Coal	13	13	4
Tradesmen's Bills	13	1	8
Printing and Advertising	5M	15	0
Books and Stationery	5M	3	0
Travelling Expenses of Lecturers	7	10	11
Professor Awarded for Four Lectures	40	1	0
General Curator's Salary	25	0	0
Porter's Salary	100	0	0
Rates and Taxes	M	0	0
Expenses of the Conversations	4	17	M
Subscription to the Society of Arts, & Post Office Order	30	13	0
Postages and Postage Stamps	2	13	0
Purchase of Specimens for the Museum	7	13	M
Preparation and Cleaning of Specimens	M	14	1½
Carriage and Packing of Specimens and Books	0	4	7
Cleaning the Hall	0	4	7
Sundry Expenses	28	11	10½
Bankers' Commission	8	3	0
Balance in Bankers' Hands	98	10	M
Balance in Curator's Hands	16	8	4½

£1061 1 1½

BUILDING FUND ACCOUNT.

RECEIPTS.	£.	s.	d.
To Subscriptions	10,834	14	0
Unpaid	20	0	0
Cash for Sale of Glass,	10,914	14	0
" Interest on Loan	3	10	8
" Interest allowed by Bankers	66	10	8
" Balance owing to the Bank	144	1	0
	386	18	3

DISBURSEMENTS.	£.	s.	d.
By Corporation for Paving Russell Street	11	17	8
" Bankers' Commission	34	10	0
" Messrs. Dobson and Chorley, Architects	363	2	3
" Mr. Longley, for Cushions for the Lecture Room	84	10	8
" Mr. Smith, for Chairs	21	2	0
" Messrs. Denby & Co., for Blinds	10	7	6
" Messrs. Dennis Lee & Walsh	92	19	0
" Mr. S. Crofts, for Slating	41	0	0
Stamped Cheques	0	4	2
" Mr. Faulkner, for Lithographic Plans	6	0	0
" Mr. Bowditch, for Plans	25	0	0
" Mr. R. W. Simpson, for Warehouse	3517	0	0
Gratuity to Mr. Denny, as Secretary to the Building Committee	30	0	0
" Messrs. Shaw and Tennant, for Conveyance	54	3	2
" Roaring Supper for Workmen	5	0	0
" Mr. J. Dilworth, Clerk of the Works, 67 weeks	167	10	0
" Mr. Mawer, for Carving Columns	38	0	0
" Mr. C. A. Keene, for Cocoa Nut Matting	27	14	6
" Mr. F. Jackson, for Painting	77	17	0
" Messrs. Nelson & Son, for Ironwork	284	0	0
" Messrs. Hadden & Co., for Warming Apparatus	139	14	0
" Mr. Hall, for Gas Apparatus	277	0	0
" Messrs. Jas. Wilson and Son, Plasterers	460	0	0
" Messrs. Wm. Nicholson & Son, Masons	2021	16	0
" Mr. Samuel Powell, Plumber	807	15	0
" Mr. Hall Thorp, Joiner	1666	0	0
" Do, do, for Glass Cases for the Museum and Fittings for Library	1144	0	0
	£11,515	13	11

£11,515 13 11

To Balance brought down £386 18 3

SUBSCRIPTIONS

TO

THE BUILDING FUND.

	£.	s.			£.	s.
Armitage, William, Farnley			Boothman, W. D.	20	0	
Iron Company	20	0	Botterill, John	20	0	
Aldam, William	25	0	Bousfield, Chas.	20	0	
Armitage, W. J.	20	0	Bray, James... ..	20	0	
Atkinson, J., and Son	5	0	Bray, John, <i>Newlay Hall</i> ...	50	0	
Atlay, Dr.	10	10	Buck, W. C.	5	0	
Alcock, Sir Rutherford	5	0	Butler, J. O.	50	0	
Baines, E., M.P.	60	0	Broadhead, Henry	10	0	
Baines, Frederick	20	0	Brown, James, M.P.	250	0	
Balme, E. W.	50	0	Brown, Samuel James.	295	0	
Barr, Robert	20	0	Brown, William.	100	0	
Barry, Rev. A.	30	0	Briggs and Co.	20	0	
Bateson, Josh.	20	0	Buckton, Joshua	50	0	
Barwick, J. M.	25	0	Buckton, George	50	0	
Batley, John	25	0	Burniston, James	25	0	
Beckett, William	300	0	Cadman, William	10	0	
Beckett, Sir Thomas	50	0	Chadwick, Dr.	50	0	
Beecroft, G. S., M.P.	70	0	Chadwick, Wm.	50	0	
Benson, John	25	0	Clapham, S.	20	0	
Best, William.	25	0	Clay, George	20	0	
Beverley, M. B.	10	10	Cliff, Joseph	35	0	
Binks, Benjamin	5	5	Conyers, W. H.	60	0	
Birchall, Samuel.	50	0	Cooper, John	100	0	
Birchall, J. D.	50	0	Cooper, S. T.	100	0	
Bishop and Hewitt.	5	0	Crofts, John	50	0	
Bolland, W. T.	20	0	Crowther, Barker	10	0	
Bolland, W. T., Jun.	20	0	Cudworth, J. W.	10	10	
Booth, William	2	2	Charlesworth, Thomas	10	0	

	£.	s.		£.	s.
Calverley, John	20	0	Harvey & Reynolds	5	0
Cross, John.....	1	1	Heaton, Dr.....	60	0
Devonshire, Duke of.....	25	0	Hebblethwaite, J. W.	10	0
Denison, W. B.	75	0	Hewitson, H. W.	75	0
Davis, Edward	2	2	Hey, William.....	100	0
Dawson, Benjamin & Co. ...	20	0	Hey, Samuel	50	0
Dibb, T. T.....	20	0	Hincks, Rev. T.....	10	0
Donisthorpe, G. E.....	50	0	Holdforth, J. D.....	50	0
Eamonsn, Rev. B.....	5	0	Holdsworth, W. B.....	50	0
Eddison, Frederick	20	0	Holmes, Samuel.....	20	0
Eddison, Hannah M.....	20	0	Horsfall, Abraham	5	0
Ellershaw, R. J.....	20	0	Holt, Joseph	25	0
Empson, Christopher.....	15	0	Holt, Henry	20	0
Emsley, Thomas.....	5	0	Hotham & Whiting	5	0
England, Thomas	20	0	Hudson, Robert.....	50	0
Fairbairn, Sir Peter	100	0	Hudson, R. J.....	25	0
Fairbairn, Andrew	100	0	Hawkshaw, John	50	0
Farmer, Thomas	20	0	Ikin, J. I.	5	0
Firth, William	20	0	Illingworth, William.....	20	0
Fitzwilliam, Earl	50	0	Ingham, William	25	0
Ford, B. L.....	30	0	Irwin, Edward	30	0
Forster, W. E., M.P.....	20	0	Israel, Julius	20	0
Foster, Dr. Edwin.....	5	0	Jackson, Samuel.....	20	0
Fryer Frederick.....	2	2	Jowitt, John	75	0
Fowler, John	3	3	Joy, W. G.....	50	0
Gott, William.....	710	0	Joy, Walker	50	0
Gott, John	500	0	Kempe, William	5	0
Grey, Earl de, and Ripon...	25	0	Kemplay, Christopher	40	0
Greaves, Edward	20	0	Kinnear, Thomas J.	75	0
Greenhow, Dr.	5	0	Kirkby, Thomas	10	0
Greenwood, Thomas	25	0	Kirkby, Frederick.....	10	0
Graham, Cyril	5	0	Kitson, James.....	100	0
Hall, Thomas.....	75	0	Knight, J. Y.....	5	0
Hargreaves, John	20	0	Lambert, Joseph.....	20	0
Hargrave, James	50	0	Land, Philemon.....	5	0
Hargreaves, J. B.	50	0	Lawson & Sons	60	0
Hartley, J., <i>Otley</i>	5	0	Leather, J. W.....	20	0

	£.	s.		£.	s.
Leather, J. T.....	50	0	Nell, D. W.....	20	0
Leathley, Samuel	20	0	Nelson, George	25	0
Ledgard, William	20	0	Nelson, Henry	20	0
Ledgard, Eyre	20	0	Nicholson, W. N.	100	0
Lee, Dennis	10	0	Nichols, Richard	50	0
Lister, William	5	0	Nunneley, Thomas.....	25	0
Londesborough, The Right			Nussey, Thomas.....	20	0
Hon. Lord	10	0	Nussey, Obadiah	40	0
Luccock, J. D.....	50	0	Oates, Misses	10	0
Ludolf, Henry	80	0	O'Callaghan, P.....	30	0
Lupton, Arthur	200	0	Oxley, Henry.....	60	0
Lupton, Darnton	35	0	Palmerston, Rt. Hon. Visct.	25	0
Lupton, Joseph, <i>Chapelton</i>	50	0	Payne, B. E.	25	0
Lupton Joseph, <i>Armley</i>	20	0	Petty, William	20	0
Lupton, Francis.....	50	0	Plint, T. E.....	20	0
Lupton John	25	0	Proctor, C.	20	0
Mac Carthy, E. C.....	5	5	Ramsden, J. W.....	20	0
Maclea, C. G.....	40	0	Ramskill, Josiah.	3	3
Manning, John	15	0	Ramsbotham, Dr.....	20	0
March, J. O.	50	0	Read, Miss	20	0
March, George	20	0	Rhodes, John.....	370	0
Margerison, J. L.	50	0	Ree, Isidore	3	3
Marshall, J. G.	250	0	Reinhardt, George.....	5	0
Marshall, H. C.	250	0	Rhodes, Rev. J. A.....	150	0
Marshall, A.....	250	0	Richmond, Rev. W.	5	0
Marshall, R. D.....	60	0	Richardson, J. H.	10	3
Marshall, J.....	30	0	Riley, Thomas	20	0
Martin, S. D.....	10	0	Riley, Henry	3	0
Middleton, W.....	20	0	Ripley, Richard.....	20	0
Mirfin, John	20	0	Ripon, The Bishop of.....	20	0
Morley, George	50	0	Robinson, Richard.....	20	0
Morfitt, John	5	0	Robinson, John	20	0
Morphet, William	20	0	Ryder, Charles	10	10
Myers, W. H. N.	25	0	Scholefield, William	5	0
Myers, W. C.....	20	0	Schunck, Ed.	75	0
Nathan, N. P. & H. ...	20	0	Scott, B. F.....	5	0
Naylor, C.	5	0	Shaw, John Hope	30	0

	£.	s.		£.	s.
Shaw & Tennant.....	20	0	Tottie, J. W.	30	0
Sidney, Alderman, M.P. ...	21	0	Townsley, Richard.....	20	0
Simpson, R. W.....	20	0	Turkington, H. C.....	10	0
Simpson, Edw.	15	0	Turner, R. B.	50	5
Smith, John	100	0	Uppleby, J. G.	50	0
Smith, J. M.	25	0	Vickers, B. R.	5	0
Smith, J. E.....	21	0	Wade, John	25	0
Smith, J. Wales.....	5	0	Walker, Edward	20	0
Smith, William Farrar	20	0	Walker, Thomas	25	0
Smith, Beacock, & Tannett	50	0	Ward, W. S.	50	0
Smith, Henry.....	5	0	Waud, Major.....	20	0
Smith, E. J.....	5	0	Whitaker, John.....	100	0
Stables, Jas.	25	0	Whiteley, J. & W.....	10	0
Stansfeld, T. W.....	100	0	Whiteley, Thomas.....	20	0
Stead, Walter....	20	0	Wilkinson & Co.....	50	0
Sharp, N.....	25	0	Wilkinson, John.....	25	0
Salt, Titus	50	0	Wilkinson, Josh.....	20	0
Talbott, George	25	0	Wilson, John, <i>Seacroft</i>	50	0
Tatham, Mary A.	20	0	Wilson, John	20	0
Taylor, George	50	0	Wilson, William	5	0
Taylor and Wordsworth ...	40	0	Wolff, Philip	25	0
Teale, Joseph.....	20	0	Wood, R. H.	20	0
Teale, T. P.....	105	0	Wood, Harry.....	50	0
Tennant, Thomas	50	0	Wurtzburg, Ed.	20	0
Tennant, Mrs.....	50	0	Young, George	20	0
Tennant, J. M.	35	0	Name unknown	5	0
Tennant, Robert.....	50	0			
Tetley, F. W.....	75	0			
Titley, Anthony	20	0			
Titley, T. A.	25	0			

£10,984 14

DONATIONS AND ADDITIONS

TO THE

SOCIETY'S MUSEUM.

Those marked thus () are Honorary Members ; thus (†) Members of this Society.*

GEOLOGY AND MINERALOGY.

- A valuable Series of Teeth and Bones of the Hyæna, Rhinoceros and Horse, from Wokey Hall, Somerset } Mr. W. Boyd Dawkins, F.G.S.
- Molar Teeth of the Elephant, from Ilford, Essex, and several Fossil Echinoderms, from the Chalk of Wiltshire..... } †Mr. W. S. Ward.
- Specimen of Cryolite, from Greenland ... †Mr. J. D. Lucock.
- Three interesting Specimens of Calamites ; Cannæformis, from Gypton Wood ; and a Mass of Iron Pyrites, from the Isle of Wight..... } †Mr. Tiffany.
- Six fine Specimens of Purple Fluor Spar, (Blue John) ; and Two beautiful Masses of Calcareous Spar, from Derbyshire ; and several fine Casts of Encrinital Stems, (Screw Stones), from the Mountain Limestone of Derbyshire } Mr. J. H. Hebblethwaite.

ZOOLOGY.

- Egg of the Emu, and casts of the Eggs of the Dinornis and *Æpyornis* ; Specimen of *Cyclodus-nigro-luteus* from Australia. } †Mr. O'Callaghan.
- Specimen of the Rumpless Fowl, preserved by C. Waterton, Esq., of Walton Hall. } Dr. Hobson
- Very fine Specimen of the Father Lasher, or Long Spined Cottus, caught at Whitby } †Mr. Abraham Horsfall.

- Very fine Horn of the square-nosed
Rhinoceros; (Rhinoceros Simus) of South
Africa } †Dr. Craig.
- Skins of the Adult and Young of the
Three-Toed Sloth, and Skeleton of the
same Animal, from British Guiana } The late Mr. W. W. Hewitson.
- Horns of the Sable Antelope, from South
Africa } Mr. John Middlebrook,
Birstal.
- Very fine Skull of the Male African
Elephant; Tusk of Female Elephant;
Two fine Horns of the Single-horned
Rhinoceros; Horns of the Double-horned
Rhinoceros; Two very fine Tusks of the
Hippopotamus; very fine Skulls and
Horns of the Gemsbok, Blawbock,
Eland, Hartebeste; and Three pairs of
the Horns of the Koodoo } *Mr. W. Hartley, D'Urban,
Natal.
- Fine Specimen of the Green Sandpiper,
shot at Woodhouse Carr, April 23, 1863. } Mr. Robert Sowrey.
- Twenty Birds from British Columbia, Speci-
mens of the Colobus Satania, Echidna
Aculeata, and Paragalea Lagotis; Skele-
tons of the Manis, Platypus Anatinus,
Flamingo, Spermophilus, Chameleon,
Lemur Catti, and Coypu Chelonia;
Specimens of the Chinese Jacana; Son-
nerats Jungle Fowl..... } Purchased by the Society.
- Very fine Specimens of the Alpaca and
Fallow Deer } †Mr. Salt, Methley Park.
- Remarkably large Specimen of the Cross
between the Irish Wolf Dog and Mastiff } Mrs. O'Callaghan
- Two Specimens of the Saw Fish Mr. Samuel Waite.
- Fine Specimens of the Tangalung from
Malacca; Crested Penguin; and eight
beautifully preserved Fish from the
Mediterranean..... } †Mr. Arthur Lupton.
- Fine Specimen of the Platypus Anatinus... †Mr. J. D. Luccock.
- A Puff Adder from the Cape of Good Hope †Mr. S. Hey.
- 73 Specimens of British Land and Fresh
Water Shells } Mr. S. W. North, York.
- Specimen of Polypterus, from Fernando Po †Mr. Andrew Fairbairn.

- Very fine preserved Specimens of the
Wombat, Nylghau, Arctic Dog, Cape
or Fat-tailed Sheep, Demerara Sheep,
Black-handed Kangaroo, Hairy Arma-
dillo, and Black Swan } *The Right Hon. Earl Fitz-
william, Wentworth House.
- Specimen of the Egret from South Africa... } Mrs. Walker, Stainley Hall,
Ripon.
- 49 Birds, including Bustards, Darters,
Crested Pintado, Plantain Eater, Coot,
Water Hen, Kingfishers, Cormorant,
Ducks, Goose, Crow, Partridges, &c. ;
and Two Specimens of the Cape Hyrax } Mr. Walker, Stainley Hall.
- Specimen of Female Emu..... } †Mr. Joseph Holt.
- Beautiful Specimens of Gorgonia, from
New Zealand } The Right Hon. the Earl of
Dartmouth.
- Pair of Black and Blue Creepers, from
Bahia } †Mr. J. C. Knight
- Specimen of the Globe Diodon, from the
Nile..... } Miss Osburn, Jerusalem.
- Fine Specimen of the Beaver, from Canada } †Mr. R. B. Turner.
- Specimens of the Black Spider Monkey,
Southern Lynx, Short-tailed Kangaroo,
Skulls of the Grizzly Bear and Young
Walrus, Iguana, Marbled Monitor,
Labrador Jumping Mouse, Owen's Cha-
meleon, Marmot, and Beaver Rat } Purchased by the Society.
- Skull of the Polar Bear } †Mr. Calvert.
- Beautiful Specimen of the Civet Cat from
Africa } †Mr. T. Ambler.
- Specimen of the Knotty Cushion Star
(Goniaster Equestris) } Mr. W. Lamb.
- Jaws of a Species of Ray; Snout of the
Sword Fish; Valves of a gigantic Pinna
from the Western Coast of Africa } Mr. Edward Thomas, by
Colonel Francis.
- Fine Specimen of the Otter, from Wales... } Mr. H. Horsfall.
- Two Rattles from the Tails of Rattlesnakes } Mr. J. L. Flinn.
- Specimen of the Taguan (Petaurista Tag-
uanoides) } †Mr. Morley.
- An extensive Collection of Scottish Plants } *Mr. H. Denny.
- Beautiful Specimens of all the British
Sphingidæ } †Messrs. Walker and Lomas
Joy.

ARCHÆOLOGY AND ETHNOGRAPHY.

- Portion of a Quern, (made of Vesicular Trap, from the Quarries of Andernach-on-the-Rhine), brought from the ancient Military Station of Housestead, on the Roman wall (Borcovicum).....) } Mr. O'Callaghan.
- Ancient British Canoe, made from the Trunk of a Tree, found in draining the site of the old Tarn, at Giggleswick, in Craven.....) } Mr. Wm. Hartley, Settle.
- 20 small Brass Roman Coins, found at Wroxhall, Isle of Wight) } Mr. G. S. Beecroft, M.P.
- Four Silver Pennies of Edward, found at Malton) } Mr. W. C. Copperthwaite, Malton.
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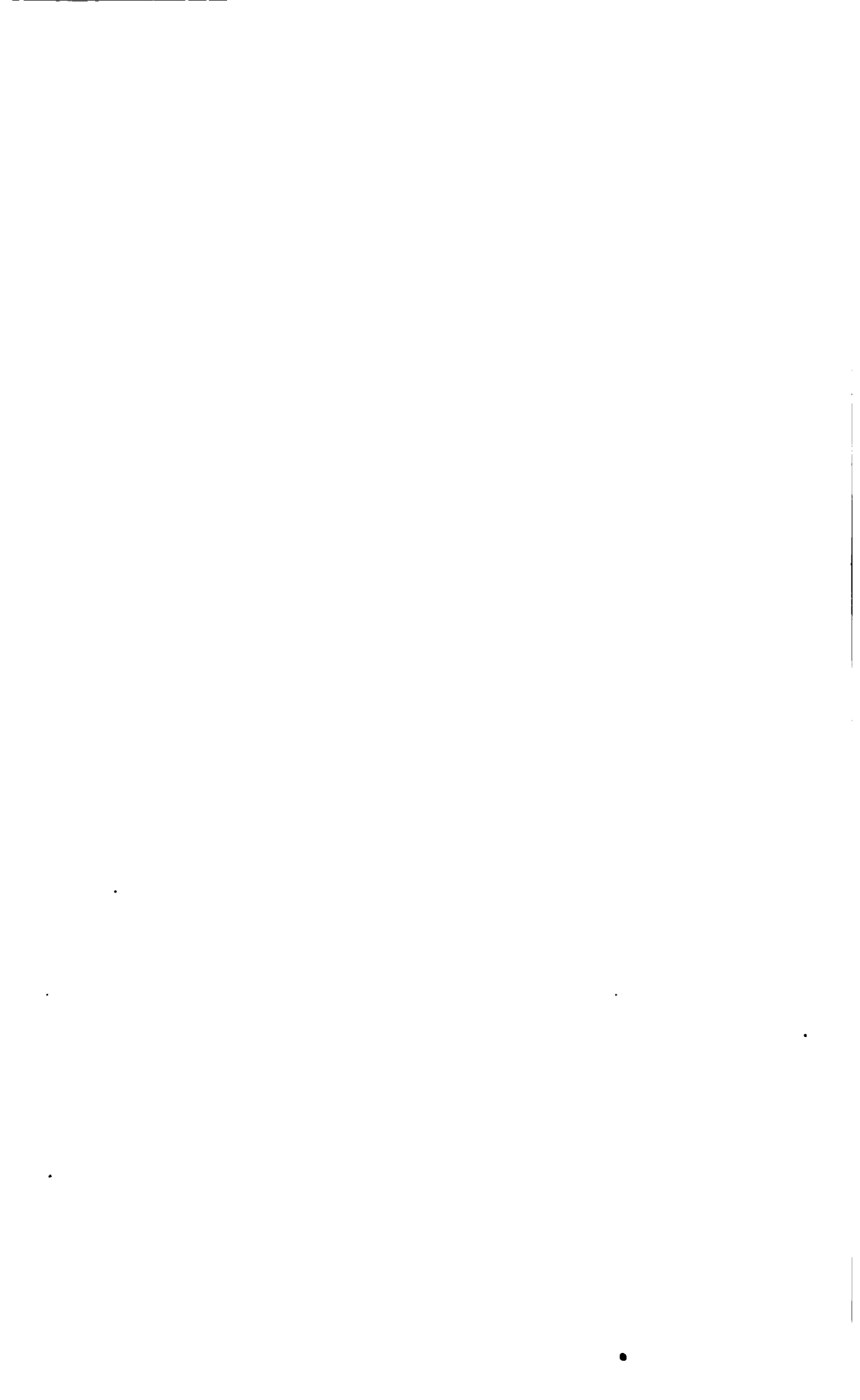
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No book shall be taken from the Library without the record of the Librarian.

No person shall be allowed to retain more than five volumes at any one time, except by special vote of the Council.

Books may be kept out one calendar month; no longer without renewal, and renewal may not be granted more than twice.

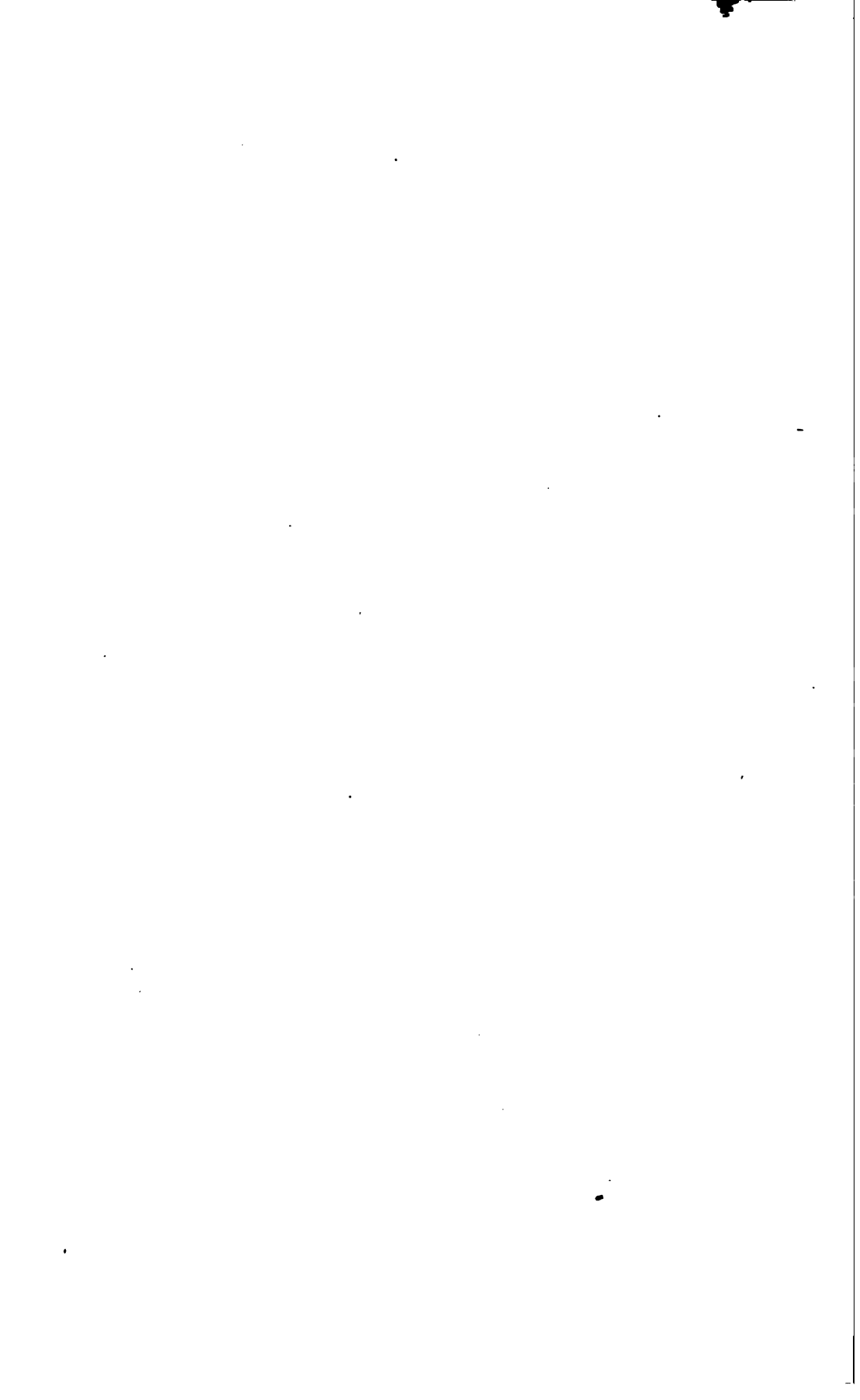
A fine of five cents per day incurred for every volume not returned within the time specified by the rules.

The Librarian may demand the return of a book after the expiration of ten days from the date of borrowing.

Certain books, so designated, cannot be taken from the Library without special permission.

All books must be returned at least two weeks previous to the Annual Meeting.

Each member is responsible for all injury or loss of books charged to his name.



July 18-1866

LEEDS
PHILOSOPHICAL AND LITERARY SOCIETY.

THE ANNUAL REPORT

FOR 1864-65.

29-5

Se Le 1

Boston Society of Natural History.

From

Received

FORTY-FIFTH REPORT
OF
THE COUNCIL
OF THE
LEEDS
PHILOSOPHICAL AND LITERARY
SOCIETY,

AT THE CLOSE OF THE SESSION

1864-65.

Read at the Annual Meeting, May 2nd, 1865.

LEEDS:
PRINTED BY EDWARD BAINES AND SONS.

MDCCLXV.

IMPORTANT RULE

RESPECTING THE PROPERTY OF THE SOCIETY.

PASSED OCTOBER 8TH, 1860.

That in the event of the dissolution of this Society, its Property and Effects, whether real or personal, shall not be disposed of for the personal benefit of the Members, but shall be appropriated in such manner for the advancement of Science, Literature, or Art, in the town of Leeds, as shall be determined by a majority of the Members at an extraordinary Meeting to be convened for that purpose. But that no dissolution of the Society shall take place without the consent, in writing, of a majority holding not less than two-thirds of the Proprietary Shares.

FORM OF A BEQUEST TO THE SOCIETY.

Every person desirous of bequeathing to the Society any Sum of Money, Specimens, Books, Instruments, or other Property, is requested to make use of the following Form:—

I give and bequeath to the Trustees for the time being of the Society established at Leeds, called "THE LEEDS PHILOSOPHICAL AND LITERARY SOCIETY," for the use of the said Society, the sum of _____, to be paid out of such part of my personal Estate as I may legally charge therewith. [Or here enumerate the Effects or Property intended to be bequeathed.] And I direct that the Receipt of the Treasurer of the said Society, for the time being, shall be an effectual discharge to my Executors for the said Legacy.

REPORT OF THE COUNCIL

AT THE CLOSE OF THE

FORTY-FIFTH SESSION.

THE return of another Anniversary of the Leeds Philosophical and Literary Society demands from the retiring Council a review of its proceedings during this its forty-fifth Session. It is gratifying to be able to state that its numbers continue to increase, and that its ordinary finances are in a satisfactory position.

During the year that has just passed the Society has lost 28 Members and Subscribers by death and removal, but this loss has been compensated by the election of 50 new Subscribers.

The balance against the Society on the Building Account, which at the close of the last Session was £386 18s. 3d., has been reduced by a Donation of £50 from H. C. M. Ingram, Esq., and by the transfer of £100 from the Ordinary Funds of the Society, and now stands at £246 6s. 3d., after payment of £9 8s. for interest. The Council earnestly urge upon their successors the great importance of liquidating this balance as speedily as possible by means of fresh contributions; for the current income is not sufficient to maintain the effective working of the Society, and also to pay off the debt, even by protracted instalments.

The Council have found it advisable to expend a much larger sum than usual in the purchase of books, as will be more particularly explained in that portion of the Report which relates to the Library; with this exception, the expenditure of the Society has been kept upon an economical scale, so that after transferring the sum of £100 to the Building Fund, as before mentioned, a balance of £94 17s. 9d. still remains on the Ordinary Account in favour of the Society, in the hands of the Treasurer, and £20 7s. 3½d. in those of the General Curator.

The Society has to deplore the loss, by death, of one of its most valued members, Mr. J. Hope Shaw, who had for a long series of years taken a leading part in the affairs of the Society, as an Officer and Member of the Council, and as the reader of many valuable Papers, amongst which were the following :—

1. "On Capital Punishment." Read October 21st, 1842.
2. "On the Origin, Progress, and Present State of the English Jury System." Read October 20th, 1843.
3. "On the History and Effects of the Feudal System in England." Read October 18th, 1844.
4. "On Capital Punishment." Read December 17th, 1847.
5. "On the History of English Municipalities." Read October 29th, 1854.
6. "On the Origin of the English Parliament." Read October 30th, 1855.
7. "On the English Parliament, from the Reign of Edward the First to the Revolution of 1688." Read October 21st, 1856.

Mr. Shaw was ever ready to give the Institution the advantage of his great legal knowledge upon any point

affecting its interests. He had been a Member of the Council for a long series of years, and had filled the highest office, as President, on six occasions, during which time he devoted himself most energetically to its interests, and at great personal inconvenience was most constant in attendance at its meetings. He was of great assistance to the Society in various investigations of the accounts, and the regulation of its expenditure, and took a prominent part in the attempt to amalgamate with the Leeds Library.

The following is a list of the communications read during the past Session, which fully sustained the high character of the Society :—

1. "On some of the Benefits which Arts and Manufactures have derived from Chemistry." By Dr. Crace Calvert, F.R.S., F.G.S., &c. Read October 18th, 1864.
2. "The Doctor Profundus." By the Dean of Chichester, F.R.S. Read November 1st, 1864.
3. "On St. Cuthbert." By the Rev. T. R. Green, M.A., of London. Read November 15th, 1864.
4. "The Holy Land in its Natural Aspects." By the Rev. H. B. Tristram, M.A., F.L.S., &c. Read December 6th, 1864.
5. "The Conversazione." Held December 13th, 1864.
6. "On the Subterranean Explorations in Jerusalem." By Edward Atkinson, Esq. Read December 20th, 1864.
7. "On the Red River Settlement and other British North American Possessions." By Lord Viscount Milton, F.R.G.S., and Dr. Cheadle. Read January 3rd, 1865.
8. "On the Scottish Borders." By the Rev. C. H. Hartshorne, M.A., &c. Read January 17th, 1865.
9. "On Force; its Transformations, its Indestructibility, and its Origin." By Dr. Heaton. Read February 7th, 1865.

10. "On Mosaics; their Origin, Different Kinds, and Progressive Development; and on the Introduction of Enamel-Mosaic into England." By Dr. Antonio Salviati. Read February 21st, 1865.
11. "On the Vedas, or the Ancient Sacred Books of the Brahmins." By Professor Max Müller, M.A. Read March 7th, 1865.
12. "On Modern means for Naval War." By J. Scott Russell, Esq., F.R.S. Read March 21st, 1865.
13. "On the Names of Places in the British Islands and North-West of France." By the Rev. Dr. Henderson. Read April 4th, 1865.
14. "On the Arctic Regions." By Dr. Rae, R.N. Read April 18th, 1865.

THE CONVERSAZIONE.

The *Conversazione* was held on the 13th of December, when an unusually large number of guests assembled, for whose gratification a great variety of objects of interest were exhibited. Amongst the Works of Art were a most valuable series of Original Sketches, by eminent English artists of the last and present centuries, contributed by Mr. John Holmes; an extensive collection of exquisite Photographs; also drawings by townsmen.

Amongst the chief novelties of the evening may be mentioned the Patent Hydraulic Coal-Cutting Machine, manufactured by Messrs. Carrett and Marshall, which was exhibited in motion. Mr. W. E. Marshall briefly described the principles of its construction.

The Society was deeply indebted to Mr. Louis J. Crossley, of Halifax, for arranging an extensive series of Telegraphic communications with the principal towns in the kingdom, worked by an efficient staff of assistants connected with the United Kingdom Telegraph Company, by means of whom messages were sent and replies

received during the evening. Mr. Crossley gave an interesting account, illustrated by diagrams and instruments, of Telegraphy, and of Morse's system of Printing by Electricity. He also offered a few remarks on the subject of Sub-Marine Telegraphy, and exhibited specimens of the Cable used for the first Atlantic Cable, and that now being manufactured for the purpose, and explained the great improvements which had been made in the latter.

The President exhibited a series of beautiful Photographs of the Skeleton of *Moa robustus*, lately presented to the Museum of the York Philosophical Society, and gave a short account of the discovery, in New Zealand, of this unique and extremely valuable specimen, referring to the evidence which it affords of the recent extinction of this bird. These Photographs were transmitted as a present to this Society by the Council of the York Society.

Mr. Reynolds exhibited the combustion of the Metal Magnesium, and also two or three forms of lamp designed for effecting this object.

MUSEUM.

The number of visitors to the Museum during the past Session has been 40,902; whose payments, amounting to £175 1s. 2d., are in increase of those of last Session, which embraced thirteen months.

Although the contributions to the Museum have not been quite equal in number to those of the last Session, they embrace several very important accessions, a few of which demand more than ordinary notice, especially those

from our townsmen and former benefactors, Mr. Noble and Mr. Morley. The first consisting of 11 Quadrupeds, a Skeleton of the Echidna, 31 Birds, a Case of Insects, and several Reptiles from Queensland, Australia. By this timely accession of the Skeleton of the Echidna, which has long been a desideratum, the Museum now possesses perfect osteological illustrations of the only *two genera of Monotremata* known. From Mr. Morley has been received an extensive and truly valuable collection of specimens in various departments, embracing a very fine Mummy of the Crocodile, and several smaller examples from the Catacombs at Maabdeh, near Manfalout, Upper Egypt, several Skulls of Mummies, Greco-Egyptian Terra-Cotta Figures, 34 Sepulchral Figures, Beads, and other Relics from the tombs of Ancient Egypt, two specimens of the Chameleon, Lizards, Shells, Horns of the Rhinoceros, Skull of the Grampus, a series of Fossils from the Gault of Folkstone, several beautiful Crinoids and Zoophytes from the limestone of Dudley, and 132 Volcanic Rocks from the Lipari Islands, Etna, and Sicily.

Foremost amongst the Geological additions must be classed the acquisition of two remarkably fine Skulls of extinct Bears from Ireland, which had been transmitted to Leeds for sale. The possession of specimens of so much interest and value immediately became an object of no small consideration, and by the liberality of Mr. J. G. Marshall, Mr. Arthur Marshall, Mr. Hamilton Richardson, and Mr. Andrew Fairbairn, they were immediately purchased and presented to the Society's Museum, which is now probably the only provincial Museum, with the exception of the Woodwardian, at Cambridge, possessed of Skulls of the extinct Bears of Britain.

The Society is deeply indebted to Mons. Lartet, of Paris, and Henry Christie, Esq., of London, and also to Mr. J. Jowitt, and Mr. Farrer, of Ingleborough House, by whom the suggestion on behalf of this Society was made to Mons. Lartet and Mr. Christie for a large Slab of Breccia, from the Dordogne Caves, of Les Eyzies, in France, as also numerous Flint Implements, Chippings, Bones and Teeth of the Rein Deer, Ox, and Horse, and Lance Heads made from Rein Deer bones, from the same cave. When objects of a nature bearing so closely upon the early history of man are exciting so much interest throughout Europe, a contribution obtained direct from this locality, by such eminent geologists as Mons. Lartet and Mr. Christie, is considerably enhanced in value, and forms a most important accession.

Mr. John Holmes has presented the Frontal Bone and Horn Cores of *Bos primigenius*, found near Doncaster.

The Honourable Richard Hill, of Spanish Town, amongst other contributions during the past Session, has sent the Skull and Ribs of the *Manatee*, from Jamaica, which with the two fine Skulls of the *Dugong*, purchased by the Society, illustrates very fully the *Herbivorous* Cetaceans, before *wholly unrepresented* in our Museum.

Mr. Nussey, of Birstal, has presented a fine specimen of the Chacma or Ursine Baboon and Temmincks Manis, from South Africa.

Your former Honorary Secretary, P. O'Callaghan, Esq., LL.D., D.C.L., has kindly contributed two rare Birds, the great Ural Owl, and the White Falcon of Australia, both important acquisitions.

From the Warwick Museum have been obtained; by exchange, through the intercession of the above gentleman, two valuable additions, consisting of remarkably fine specimens of the Australian Jabiru and the Channel Bill, birds long in request by the Curator.

Mr. J. N. Brigg has again presented some interesting specimens from South Africa, including the Black-backed Jackal, two species of Antelopes, the Hyrax, and several Lizards.

Mr. W. H. Broadhead has mounted and presented 87 species of British Shells.

A very fine specimen of the Emerald Bird of Paradise has been given by Miss Roberts.

Mr. J. E. Nelson, during his passage from Australia, secured a noble example of the Albatross for our Museum; and an extremely fine pair of American Eagles has been sent from a former Member of the Society, Mr. Abraham Clapham, of Scarbro'.

Captain Blake, of Skipton, has presented to the Society a Mummy of a Crocodile, in very high state of preservation, from Medinet Abou, and a specimen of the Crocodile from the Nile, brought from Egypt by himself.

As opportunities not unfrequently occur of obtaining objects of interest and value, by *purchase only*, the Curators have thus secured several highly important specimens illustrating typical forms, including that singularly rare animal the Cuscus, the only Marsupial of the Indian Archipelago, Skulls of the Bison, fine Skulls and Ribs of the Dugong, from Australia, specimens of the Canadian Lynx, Cacomixle, White-lipped Marmosette, Galeated Curassou, Goshawk, Sooty Albatross, Skeleton of the

Glutton, and a specimen of *Pterygotus bilobus*, from the Ludlow rock of Lanarkshire.

The arrangement of the several collections is proceeding as rapidly as circumstances will allow. The British Land and Fresh Water Shells, a large proportion of the Foreign Shells, and the British Zoophytes have been mounted on glass tablets, the latter of which are under the special supervision of your President, whose intimate knowledge of this class of Invertebrates will ensure their correct nomenclature. The British Insects, with the exception of the *Diurnal Lepidoptera*, which have been replaced by the Messrs. Joy, have long been a reproach to the Museum, from their age and the injurious effects of light. They are now under re-arrangement, with the addition of numerous fresh specimens, especially in the orders *Coleoptera*, *Diptera*, *Homoptera*. To render these Orders more complete, several very important Generic forms have been purchased; in addition to which the Society is deeply indebted to Mr. Ludolf, and Dr. Moore, of Lancaster, for valuable contributions of specimens. The Insects and British Land and Fresh Water Shells will henceforth be kept in drawers, to which access can only be had by application to the Curator, in consequence of the injury which such specimens sustain by roughness in opening the drawers. The great facility which a *named and arranged* collection of British Insects will afford to those who wish to study this delightful branch of Natural History will, we hope, be fully appreciated by Students in the town and district, who may also be stimulated to increase the collection by their own personal exertions.

The Council trust that before the opening of another

Session the professional assistance of some eminent metropolitan geologist will be obtained to aid the Curator in carefully naming the truly valuable and extensive collection of Fossil Organic remains in the possession of the Society, which is a task of no trifling extent, and could not be accomplished by the unaided labour of one officer. By the former method, which has been adopted by other provincial Societies, the interest and intrinsic value of the collection will be very considerably increased, at a moderate outlay.

In British Archæology, the Council especially call attention to the remains of some rare examples of Sepulchral Vases, Jet Beads, Flint Implements, and Human Bones from a Tumulus on Esketh Moor, near Thirsk, presented by your Member, Mr. Fox, C.E.

As other Tumuli were indicated in the same locality, your Assistant Curator proceeded to the spot for the purpose of carrying out fresh explorations. These, however, were not productive of any important results, as it was ascertained the Barrows had been previously despoiled. Mrs. Hamer, of Hawnby, however, presented a nearly perfect skull of probably a Romano-Briton, which had been disinterred from a Tumulus upon her estate.

The Industrial Museum has received several additional illustrations of the industry of the neighbourhood, as also other specimens, including:—

A valuable Series of Specimens, exhibiting the Flax Manufacture, from the Flax Plant to the Finished Sewing Thread. Presented by Messrs. Marshall and Co.

A similar Series, illustrating the Woollen Manufacture, from the Unscoured Wool to the Dyed Cloth. Contributed by Messrs. B. Gott and Sons.

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- The Different Manufactures from the Agava Fibre. By the Patent Agava Fibre Company of Newlay.
- The Cocoa and Chocolate Manufacture. From Messrs. Henry Thorne and Co.
- The Mustard Manufacture. From Messrs. J. and J. Armistead.
- The Tinctorial Lichens and their Products. From Messrs. Wood and Bedford.
- The Manufacture of Paper, from the various kinds of Rags to the Finished Writing Paper. From Messrs. Joseph Town and Sons.
- That of Brown Paper, from Old Ropes and Sacking. From Messrs. Niell and Co.
- The Glass Manufacture, illustrated by a splendid Plate of Enamelled Glass, and the Rough and Cut Glass Processes, as exhibited in the domestic articles of life. By Messrs. T. and R. Lee.
- The Dyes obtained from Guano. From Mr. Rumney, Manchester.
- The Cork Carpeting : its various stages. By Mr. Roodhouse.
- An extensive series of specimens, illustrating the various Manufactures of Hemp, Jute, and Shoddy, obtained and presented by Mr. Ludolf, who has shown great zeal, from the commencement of the Industrial Museum, in furthering its objects.
- The Manufacture of Isinglass. From Mr. James Vickers, of London.
- Various Dye Woods. From Mr. S. Leathley Nussey.
- Manna from Mount Sinai, Preserved Apricots, Dates, Almonds, and Egyptian Lentils, and other food preparations from Egypt and Palestine. Presented by Mr. George Morley.
- A mass of Berry Pemmican. From Dr. Rae.

To Mrs. Reynolds the Society is indebted for the preparation of Three Large Diagrams, illustrating the Consumption of *Tea* and *Sugar*, and figures of the Starch granules in different Vegetables.

From Messrs. Harvey and Reynolds has been received a large and exquisite Photograph of a Panoramic View of Washington, by an American Artist.

In conclusion, the Council feel called upon specially to acknowledge the following additional contributions towards the purchase of cases necessary for the display of the collections in this department of the Museum,—Mr. John Jowitt £20, Mr. Ludolf £20, Mr. Ward £20; and they take this opportunity of expressing their gratification at the great interest which is evinced by the visitors generally in examining the contents of the Industrial Museum, even in its present *rudimentary* condition. They also venture to express a hope that further illustrations of the Woollen Manufactures, and also those of Silk and Cotton, will speedily be added to the collection.

LIBRARY.

Although the Library has not had so large a number of contributions as during last year, it continues to receive the proceedings and publications of various Academies and Scientific Societies both in Great Britain and Foreign States, transmitted by them; amongst the latter the Society is greatly indebted to the Smithsonian Institution at Washington, not only for the publications of that body but also those of the American Government and the other Scientific Institutions in the United States, and also for forwarding our own publications in return to the several Institutions in America. Amongst the principal

donations may be recorded,—Cameron's Roman Baths, folio, presented by Mr. Rhodes; the Costume of the Clans, folio, presented by a Lady; Thornton's Illustrations of the Sexual System of Plants, folio, by Miss Roberts; King John of England, a History and Vindication of, by William Chadwick, by the Author; the Greenwich Observations for 1862, by the Lords of the Admiralty.

The Society has also added, by purchase, several Scientific Works, including 20 volumes of the Annals of Natural History; Owen's British Fossil Mammalia and Birds; Melville and Strickland on the Dodo; Forbes on the Naked-Eyed Medusæ; Ellis on Zoophytes; the Zoology of the Voyage of H.M.S. *Beagle*; Kenrick's Archæological and Historical Papers; Phillips's Mineralogy, by Brooke and Miller.

Since the last Annual Meeting the Council have endeavoured to make the Library more generally useful as a Reading-room, and a Committee was appointed to select a series of the principal Scientific Periodicals of the day to lay on the Library table for perusal. This regulation, involving as it does no small item of additional expense, will, it is hoped, be appreciated by the Members and Subscribers. The following periodical works are now constantly in the Library for reference :—

The Philosophical Transactions.

The Transactions of the Royal Society of Edinburgh.

The Proceedings of the American Philosophical Society.

The Proceedings of the Boston Natural History Society, U.S.

The Proceedings of the Academy of St. Louis, U.S.

The Proceedings of the Academy of Sciences of Philadelphia.

The Proceedings of the Historic Society of Lancashire and Cheshire.

The Proceedings of the Kilkenny Archæological Society.
 The Proceedings of the Royal Dublin Society.
 The Quarterly Journal of the Geological Society.
 The Journal of the Dublin Geological Society.
 The Geological Magazine.
 The Proceedings of the Zoological Society of London.
 The Annals of Natural History.
 The Quarterly Journal of Microscopical Science.
 The Journal of the Chemical Society.
 The Journal of the Society of Arts.
 The Quarterly Journal of Science.
 The American Journal of Science and Art.
 The Proceedings of the Geological Association.
 The Canadian Journal of Industry, Science, and Art.
 The Publications of the Palæontographical Society.
 The Publications of the Ray Society.
 The Anthropological Review.
 The Smithsonian Contributions to Knowledge.
 The Greenwich Observations.
 Zeitschrift für Wissenschaftliche Zoologie.
 Archiv für Naturgeschichte.
 The Proceedings of the Liverpool Philosophical Society.
 The Monthly Journal of the Royal Astronomical Society.
 The Reader.
 The Proceedings of the Liverpool Geological Society.
 The Proceedings of the Manchester Geological Society.
 The Proceedings of the Geological and Polytechnic Society of the
 West-Riding of Yorkshire.

LEEDS PHILOSOPHICAL AND LITERARY SOCIETY,

FROM JULY 1st, 1864, TO JUNE 30th, 1865.

RECEIPTS.

	<i>£.</i>	<i>s.</i>	<i>d.</i>
To Cash in Treasurer's hands	99	16	8
" General Curator's hands	16	3	4½
" Subscriptions of 75 New Proprietary Members at 21s. each	78	15	0
" " 31 Old Ordinary Members at 42s. each	65	2	0
" " 90 New Ordinary Members at 21s. each	94	10	0
" " 154 Old Annual Subscribers at 21s. each	161	14	0
" " 23 New Annual Subscribers at 21s. each	24	3	0
" " 162 Old Annual Subscribers at 5s. each	40	10	0
" " 33 New Annual Subscribers at 5s. each	8	5	0
" Arrears of Subscriptions	22	0	0
" Receipts at Conversazione	9	9	0
" Rent of Cellars	45	0	0
" Rent of Geological Society	20	0	0
" Rent of Lecture Room	45	7	0
" Admissions to the Museum	175	1	2
" Mr. Ludolf for Purchase of Insects... ..	5	0	0
" Interest from Bankers	3	1	0
" Discount from Gas Company	0	2	11
	£914	0	14½

DISBURSEMENTS.

By Building Fund	100	0	0
" Insurance... ..	12	7	6
" Gas and Coke	15	18	11
" Coals	14	13	9½
" Tradesmen's Bills	168	2	1½
" Printing and Advertising	38	3	6
" Books and Stationery	42	14	6
" Subscription to the Kay Society	1	1	0
" Subscription to the Society of Arts	2	2	0
" Travelling Expenses of Lecturers	43	7	6
" General Curator's Salary	160	0	0
" Porter's Salary	31	4	0
" Rates and Taxes... ..	3	9	10
" Expenses of Conversazione	39	4	6
" Postage and Postage Stamps	7	9	7
" Purchase of Specimens	45	14	3
" Preparation and Cleaning of ditto	22	8	1
" Carriage of Packages, &c.	6	0	4
" Cleaning of the Hall... ..	8	5	2
" Sundry Expenses	29	18	6
" Purchase of Insects for Mr. Ludolf... ..	5	0	0
" Bankers' Commission	1	10	0
" Balance in Bankers' hands	94	17	9
" Balance in General Curator's hands	20	7	3½
	£914	0	14½

DONATIONS AND ADDITIONS

TO THE

SOCIETY'S MUSEUM.

Those marked thus () are Honorary Members; thus (†) Members of the Society.*

GEOLOGY AND MINERALOGY.

- Fine Frontal Bone and Horn Cores of }
Bos Primigenius, found at Ardwick-le- } †Mr. John Holmes.
Street, in Doncaster..... }
- Specimens of Garnets, from South Africa } Mr. J. N. Brigg.
- Specimens of Halonia and Knorria, from }
Park Spring Quarry..... } Mr. Denton, Harehills.
- Specimens of a Furoid Plant, from the }
Rag Stone at Burley Quarry, and Mag- } †Mr. J. C. Dolan.
nesian Limestone, from Garforth..... }
- Fossils, from the Valley of the Tombs of }
the Kings at Thebis..... } †Mr. Edward Atkinson.
- Specimens of Granite, from Assouan, Egypt } †Mr. G. Morley.
- Horns and Bones of the Goat and Short- }
horned Ox; Jaws of the Boar, from the } Mr. Edward Wood, F.G.S.
Drift, in the town of Richmond, York- }
shire..... }
- Specimen of Mount Sorrel Granite..... } †Mr. E. Filliter.
- 132 Specimens of Volcanic Rocks, from }
the Lipari Islands, Mount Etna, and }
Sicily; Silicified Wood, from Cairo; a }
series of 82 Fossils, from the Gault at }
Folkstone; Cast of Dicerias; Fossil } †Mr. G. Morley.
Asterias, from the Libyan Desert; very }
fine specimens of Cyatho-crinites, }
Goniodactylus, Actino-crinites Monili- }
formis, Calymene Blumenbachii, and }
other Fossils, from Dudley..... }

- Rock Specimens, from the Isle of Skye... †Mr. Edward Atkinson.
- Periechocrinus, Moniliformis, and a fine Specimen of Pterogotus, from the Ludlow Rock } Purchased by the Society.
- A large Slab of Breccia, from the Caves of Dordogne, Les Eyzies, with Flint Implements, Chippings; Bones and Teeth of the Rein Deer, Ox, and Horse, and Lance Heads made from Bones of the Rein Deer } Mr. Henry Christy, F.G.S., London, and Mons. Lartet, of Paris.
- Very fine Specimen of Sternbergia Transversa; Fossil Wood, from the Submarine Forest at Sheppy, bored by the Teredo navalis; and Fossil Wood, from the Isle of Portland } Rev. Mr. Fawcett, Kildwick.
- Plumbago, Granular Garnets, from Cape Comorin; Soapstone, and Boulder of Trap Rock, from the Orange River ... } †Colonel Francis.
- Shells of Helix Nemoralis, from the Sand Hills of Gorteen, county of Galway; and Sand containing Foraminifera, from Connemara } Mr. John Morkill.

ZOOLOGY.

- Specimen of Paradisea Apoda, Emerald Bird of Paradise } Miss Roberts.
- 3 Specimens of Trigonía Pectinata..... } Dr. Percival Wright, Dublin.
- Fine Specimen of the Black Backed Jackall (Canas Mesomelas); Pair of Antelopes; Pair of the Muricated Lizard; and Specimen of the Hyrax Capensis, from South Africa } Mr. J. N. Brigg.
- Very fine Specimen of Marmoset Monkey } †Mr. R. B. Turner.
- Specimen of Temmincks Manis, and the Chacma, or Ursine Baboon, 'from South Africa..... } Mr. J. Nussey, Birstal.
- Nest and Young of the Dipper (Cinclus Aquaticus) } Mr. H. Horsfall.
- 8 Birds, and Specimen of the Carpet Snake and Echidna, from Queensland } Mr. E. Waller, Brisbane, Queensland.
- Starfishes, from the Gulf of Accaba; Head of Oxyrhynchus, from the Nile } †Mr. G. Morley.

- A Collection of 87 British Shells, &c. ... Mr. W. H. Broadhead.
- Various Species of British Coleoptera, }
not before in the Society's Cabinet..... } Dr. Moore, Lancaster.
- Specimen of the Shore Lark †Colonel Child.
- A valuable Collection of British Insects, }
consisting of nearly 2,500 Specimens... } †Mr. H. Ludolf.
- Very fine Pair of American Eagles Mr. A. Clapham, Scarbro'.
- Very fine Specimen of the Albatross, shot }
near Cape Horn } Mr. J. E. Nelson.
- A Collection of British Marine Hydroids }
and Land Shells } †Rev. Thomas Hincks, B.A.
(President).
- A valuable Collection of British Insects, }
consisting chiefly of Coleoptera and }
Diptera; a fine Specimen of the }
Galeated Curassou; two Skulls and }
several Ribs of the Dugong, of Aus- }
tralia } Purchased by the Society.
- Skull of the Thibet Bear Mr. John Glennon, Dublin.
- Fine Specimen of Sponge †Mr. G. J. Tiffany.
- A valuable Collection of Specimens from }
Queensland, including 11 Quadrupeds; }
consisting of fine Specimens of Koala, }
Petaurista Taguanoides, Petaurista Aus- }
tralis, Belideus breviceps, Hydromys }
Leucogaster, Phascogale Penicillata, }
Atechinus Flavipes, Mus Longipilis, }
Hypsiprimnus Murinus, Phalangister }
Vulpina, and the Skeleton of Echidna }
Hystrix; and 31 Birds,—Aprosmictus }
Erythropterus Sericulus Chrysocephalus, }
Eurystomus Australis, Pitta Strepitans, }
Trichoglossus Chlorolepidotus, Halcyon }
Mac Leayii, Carpophaga Magnifica, Lo- }
pholaimus Antarcticus, Podargus, hum- }
eralis, Trichoglossus Swainsonii, Calyp- }
torhynchus Funerius, Cacatua galerata, }
Talleghalla Lathamii, Grillina Australis, }
Pandeon leucoptthalmus, Malurnus }
Cyaneus and Lamberti, Haliastur Leu- }
costerna, Dicrurus bracteatus, Graculus }
Hypoleucos, Phopodes Crepitans, Tro- }
pidorynchus Corniculatus, Xanthomyza }
Phrygia, Chrysococcyx Lucidus, &c. ... } †Mr. George Noble,
Headingley.

- Fine Specimens of the Sooty Albatross,
Goshawk, Caspian Tern, three Toucans,
Wolf, Long Tailed Manis, Cuscus Ori-
entalis, Canadian Lynx, and two Skulls
of the Bison } Purchased by the Society.
- The Separate Bones of the Human Skull } †Dr. Allbutt.
- Specimen of the Pipe Fish } Mr. Walker, Stainley Hall.
- Two Skulls of Extinct Bears, from Ireland
(*Ursus Priscus* and *Planafrons*) } †Mr. J. G. Marshall, Mr.
Arthur Marshall, Mr. J. H.
Richardson, Mr. Andrew
Fairbairn.
- Skull of the Manatee; Cranium of an
Aboriginal Indian, from a cavern in the
Pedro Cliffs, St. Elizabeth, West Indies;
Snout of the Saw Fish, Frog Fish, Star
Fish; two Parroquets; Shells and
Corals; Egg of *Nyctibus*, &c. } *The Hon. Richard Hill,
Spanish Town, Jamaica.
- Very fine Specimens of the White Falcon,
of Australia; *Astur Novæ-Hollandiæ*;
and the Great Ural Owl } *P. O'Callaghan, B.A., LL.D.,
D.C.L., &c., Leamington.
- Specimens of the Cacomixle, Skunk,
White-lipped Marmoset, Yellow-billed
Magpie, and Texas Hare; Skeleton of
the Glutton } Purchased by the Society.
- Two Specimens of Chameleon; Music
Coral, from the Red Sea; Various
Lizards and Scorpions, from Egypt; two
Horns of the Rhinoceros; Skull of the
Grampus, and immature Specimen of
the Armadillo; Specimens of *Scal-
pellum* and *Pholas* } †Mr. G. Morley.
- Fine Specimens of the Australian Jabiru
and Channel Bill } Obtained by Exchange with
the Warwick Museum.
- 8 Species of British Land Shells and
Seeds of the Burdock } Mr. Blackburn.

MISCELLANEOUS.

- Mummy of a Crocodile, 6 feet in length,
and several smaller Specimens, from the
Catacombs near Manfalout, Upper Egypt } †Mr. G. Morley.
- An Ancient Sword, found in the High-
lands } †Mr. J. O. March.

- 10 Flint Implements; several flint Chip-
pings found in the fields on the Ham-
bleton Hills; 2 Urns, and fragments of
others; Jet Beads; portion of a Comb,
and Human Bones, found in Tumuli on
Esketh Moor } †Mr. James Fox.
- Skull of a Romano-Briton, from a Tumulus
on Hawnby Moor } Mrs. Hamer, Hawnby, near
Helmsley.
- A Bronze Idol, taken from a Jos House,
in the city of Soochow } Mr. Wignall, Shanghai.
- 3 Greco-Egyptian Terra-Cotta Lamps;
Greco-Egyptian Terra-Cotta Figures;
Brick made with Straw, from the Brick
Pyramid at Dashour; Bitumen, taken
from Mummy Coffins; Brick, with the
Impression of a Royal Signet, from
Thebes; 34 Porcelain Sepulchral Figures
and Necklaces, and several Wooden
Sepulchral Figures; 5 Heads of Mum-
mies; Panel of Wood, with Egyptian
Painting, and a Lid of the Coffin of a
Mummy Child } †Mr. G. Morley.
- An Ancient Cross Bow } †Mr. F. Ferns.
- 13 Roman Coins, including a second Brass
of Domitian, found at Aldborough } Mr. T. N. Warwick, Borough-
bridge.
- A very large Burnese Umbrella, from
Araccan } Mr. Francis Motley.
- Very fine Mummy of a Crocodile, from
Medinet Abou, Egypt } Captain Blake, Skipton.
- Mass of Berry Pennmican, from British
North America } Dr. Rae, R.N.
- A Four-dollar Note of the United States,
11th April, 1778; 10 Cent Note of the
Confederate General Stonewall Jackson,
9th March, 1863; 5, 10, 50 Cent Post-
age Currency Notes of the United
States; Two-dollar Note of the Con-
federate States, June 2nd, 1862; and
several Local English Bank Notes } Messrs. Hall and Hudson,
Leeds.
- 11 Specimens of Indian Woods } †Colonel Francis.
- Series of Specimens, illustrating the Manu-
facture of Mustard } Messrs. J. and J. Armistead.
- An Interesting Series, illustrating the
Hemp, Jute, and Shoddy Manufacture } †Mr. Ludolf.

- Fine Pods of the Cotton Plant; Specimens of the Bondy Nut, from the Gaboon River } *The Hon. Richard Hill, Spanish Town, Jamaica.
- Series of Specimens, illustrating the Woollen Manufacture } †Messrs. B. Gott and Sons.
- Series of Specimens, illustrating the Glass Manufacture and Cutting..... } Messrs. T. & R. Lee.
- A valuable series of Specimens, exhibiting the Flax Manufacture, from the Flax Plant to the Finished Sewing Thread... } Messrs. Marshall and Co.
- A series to illustrate the Worsted Manufacture } Messrs. Stansfeld, Brown, and Co.
- Of the Alpaca and Mohair..... Messrs. Titus Salt and Co.
- Of the Continental Wools Mr. John Jowitt.
- The Flannel Manufacture } Messrs. Butterworth, Rochdale.
- The Brush Manufacture Messrs. J. Broadhead & Sons.
- The Different Manufactures from the Agava Fibre } The Patent Agava Fibre Company, of Newlay.
- The Cocoa and Chocolate Manufacture... Messrs. Henry Thorne & Co.
- The Tinctorial Lichens and their Products..... } Messrs. Wood and Bedford.
- The Manufacture of Paper, from the various kinds of Rags to the Finished Writing Paper } Messrs. Joseph Town and Sons.
- That of Brown Paper, from Old Ropes and Sacking } Messrs. Neill and Co.
- The Dyes obtained from Guano Mr. Rumney, Manchester.
- The Cork Carpeting: its various stages... Mr. Roodhouse.
- The Manufacture of Isinglass..... } Mr. James Vickers, of London.
- Various Dye Woods Mr. S. Leathley Nussey.
- Manna, collected by the Monks at Mount Sinai; Dried Dates and Almonds, from Sinai; Ditto, from the Desert, used as food in Palestine; Preparations of Apricot; Dried Apricot, used as food in Egypt and Syria; Spindle for Woollen Yarn, from How, Egypt; Domestic Manufacture for Spinning, bought of a Nubian woman; Egyptian Lentils and various Seeds, from Egypt } †Mr. G. Morley.

Gauntlet's Patent Chronometrical Thermometer	} †Mr. Arthur Marshall.
Specimens of Compressed Peat, from Ireland	

LIBRARY.

Bound Copy of Thornton's Illustrations of the Sexual System of Linnæus, elephant folio	} Miss Roberts.
Journal of the Royal Institution of Cornwall, with the Forty-Sixth Annual Report, No. 11, 1864	
Notes on Scientific History, by John Tindall, F.R.S.....	} The Author.
Proceedings of the Zoological Society of London for 1863	
Report of the Hull Literary and Philosophical Society for 1864.....	} The Hull Literary and Philosophical Society.
Reminiscences connected with Old Oak Panelling, now at Gungrog, by Morris Charles Jones	
Smithsonian Contribution to Knowledge, vol. xiv.; Smithsonian Miscellaneous Collections, vol. v.; Annual Report of the Regents for 1862	} The Smithsonian Institution, Washington.
Proceedings of the American Philosophical Society, vol. ix., No. 70	
The Boston Journal of Natural History, vol. vii., No. 4; Proceedings of the Boston Society of Natural History, vol. ix., Parts 12 to 20.....	} The Boston Natural History Society.
Report of the Superintendent of the U.S. Coast Survey for 1861, 4to.	
Annual Report of the Trustees of the Museum of Comparative Zoology at Boston, U.S., for 1863.....	} The Trustees.
Bulletin of the Museum of Comparative Zoology, Cambridge, Massachusetts ...	

- Catalogus Universatis Harvardianæ, 1863; an Address delivered before the Alumni of Harvard College, 1863, by James Walker, D.D.; Addresses at the Inauguration of Thomas Hill, D.D., as President of Harvard College, March 4th, 1864; and other Printed Documents... } Presented by the Corporation of Harvard College Library.
- The Costume of the Clans, by John Sobieski Stolberg; and Charles Edward Stewart (folio, with plates) } †Presented by a Lady.
- Essays on Archæological and Historical Subjects, by John Kenrick, M.A., F.S.A. } Purchased by the Society.
- Rickman's English Architecture, 8vo.; Illustrations of New Species of Mammalia } †Mr. John Holmes.
- A List of the Genera of Birds, by John Gould } †Dr. Heaton.
- Descriptive Catalogue of the Salisbury and South Wilts Museum, by E. J. Stevens } The Salisbury Museum.
- The Zoology of the Voyage of H.M.S. Beagle; 20 volumes of the Magazine of Natural History and Annals of Natural History, 8vo.; Ellis's Zoophytes, 4to.; Strickland and Melville on the Dodo and its Kindred, 4to. ... } Purchased by the Society.
- Jenyns's Manual of British Vertebrate Animals } †Mr. Nunneley.
- Photographs of the Skeleton of the New Zealand Moa (*Dinornis robustus*) presented to the Museum of the Yorkshire Philosophical Society } The Yorkshire Philosophical Society.
- Cameron's Roman Baths, folio } †Mr. John Rhodes.
- History and Antiquities of Scarborough, by Thomas Hinderwell, 8vo. } †Dr. Heaton.
- Journal of the Dublin Geological Society, vol. x., part 2 } The Dublin Geological Society.
- The Greenwich Observations for 1862, 4to. } The Lords Commissioners of the Admiralty.
- Memoirs of the Astronomical Society, vol. xxxii., part 2 } The Astronomical Society, by Professor Airey.
- Proceedings of the Kilkenny Archæological Society } The Archæological Society of Kilkenny.

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| Journal of the Proceedings of the Royal Institute of Great Britain | } | The Royal Institution. |
| Transactions of the Royal Academy of Sciences of Stockholm, for 1863..... | } | The Academy of Sciences at Stockholm. |
| Journal of the Canadian Institute for 1863 | } | The Canadian Institute at Toronto. |
| The Anthropological Review, Nos. 4, 5, 6, 7, 8 | } | The Anthropological Society of London. |
| Transactions of the Royal Society of Edinburgh, vol. xxii., part 3; Proceedings of Ditto for 1863 and 1864 | } | The Royal Society of Edinburgh. |
| On the Exploration of the North Polar Region, by Capt. Sherard Osburn, R.N. | } | The Royal Geographical Society. |
| Alder and Hancock's Monograph on the Nudibranchiate Mollusca, part 4..... | } | Mr. J. P. Calvert. |
| Statistica dei Sordomuti di Sicilia nel, 1863, per F. Lancia Di Brolo | } | The Author. |
| A Chinese New Testament | | Mr. D. Millegan, Bramley. |
| King John of England; a History and Vindication, based on the Original Authorities, by William Chadwick, 8vo. | } | The Author. |
| Waifs and Strays, or North Humber History, by the Rev. Scott F. Surtees | } | The Author. |
| Abstract of the Proceedings of the Liverpool Geological Society, from 1859 to 1864 | } | The Liverpool Geological Society. |
| A View of the Coinage of Ireland, from the Invasion of the Danes to the Reign of George IV., by John Lindsay, 4to.; A Supplement to the Coinage of Scotland, by John Lindsay, 4to.; Descriptive Catalogue of Dr. Mantell's Museum at Brighton; A Contribution to a Right Knowledge of the Species of Seals Inhabiting the Irish Seas, by Robert Ball; Caratteri di Alcuni Nuovi Generi et Nuove Specie di Animali e Plante della Sicilia, per C. S. Rafinesque Schmaltz, 8vo.; Prodrromus Floræ Novæ Hollandiæ, Robertus Brown, 8vo.; Instruction pour les Voyageurs et pour les Employés dans les Colonies. Paris, 1829 | } | *Mr. H. Denny. |

- A Large and Beautiful Photograph of a
Panoramic View of Washington, in
frame and glass..... } †Messrs. Harvey & Reynolds.
- Astronomical and Meteorological Obser-
vations made at the Radcliffe Observa-
tory, Oxford, 1862 } The Trustees of the Radcliffe
Observatory.
- Proceedings of the Academy of Sciences
of Philadelphia, for 1862 } The Academy of Sciences.
- Caverns du Perigord; Objects Graves et
Sculptes, du Temps Pre-Historiques,
dans l' Europe Occidental, par MM.
Edw. Lartet et H. Christy. Paris, 1864. } The Authors.
- Owen's British Fossil Mammals and Birds,
8vo. } Purchased by the Society.

LIST

OF

OFFICERS, COUNCIL, AND MEMBERS.

OFFICERS.

President	Rev. Thomas Hincks, B.A.
Vice-Presidents	{ Rev. Canon Atlay, D.D. William Hey.
Treasurer	Henry Oxley.
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Honorary Curators in Zoology	{ T. P. Teale, F.R.S., F.L.S. Rev. Thomas Hincks, B.A.
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Honorary Librarian	Dr. Heaton.

The above Officers, and the following Gentlemen, compose

THE COUNCIL.

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PROPRIETARY MEMBERS.

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John Darnton Luccock.
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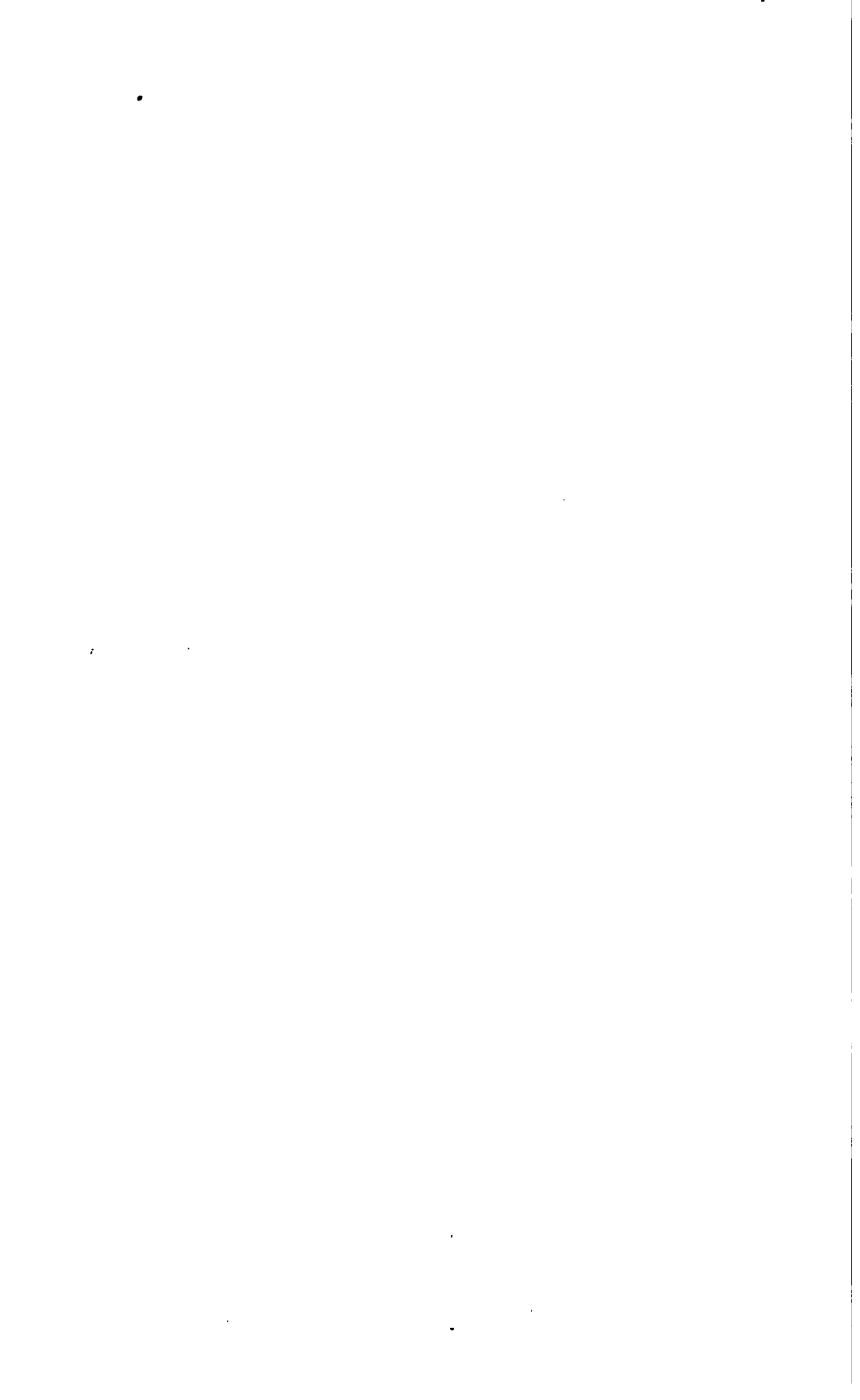
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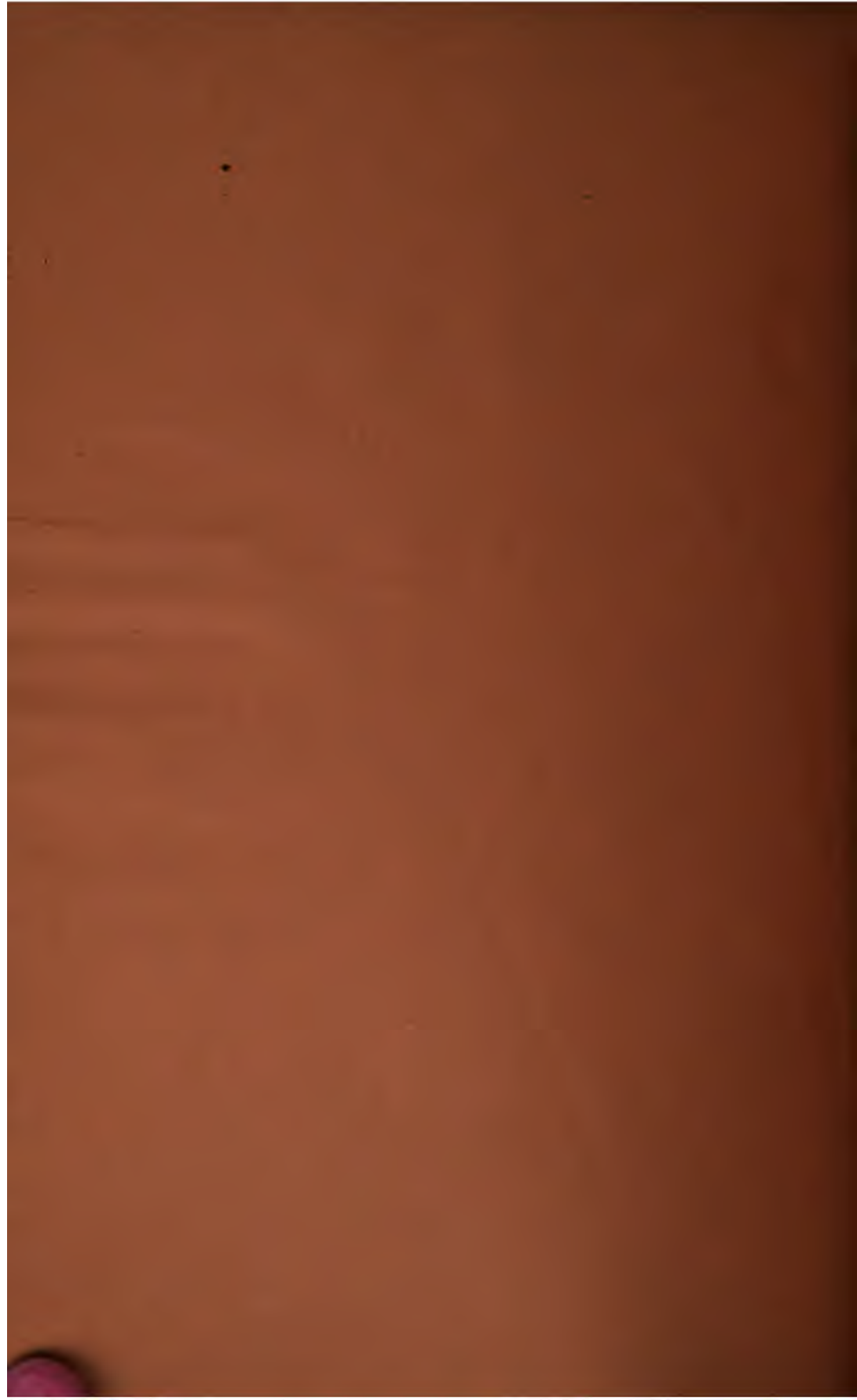
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Jan. 30 - 1867

LEEDS
PHILOSOPHICAL AND LITERARY SOCIETY.

THE ANNUAL REPORT
FOR 1865-66.

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Selet

FORTY-SIXTH REPORT
OF
THE COUNCIL
OF THE
LEEDS
PHILOSOPHICAL AND LITERARY
SOCIETY,

AT THE CLOSE OF THE SESSION

1865-66.

Read at the Annual Meeting, May 1st, 1866.



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—
MDCCLXVI.

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REPORT OF THE COUNCIL

AT THE CLOSE OF THE

FORTY-SIXTH SESSION.

The Council, in retiring from office, have pleasure in being able to congratulate the Society on its continued prosperity and success. Though 52 Members and Subscribers have been lost by death or resignation during the past year, yet an equal number of new Members and Subscribers has been elected in their place, so that there has been no reduction in the number or funds of the Society.

The Accounts, a statement of which is appended to this Report, show that the funds of the Society are in a satisfactory state. It will be seen on examining them, that the debt on the Building Fund has been reduced by fresh Contributions, by the sale of new Ordinary Members' Tickets, and by a transfer from the Ordinary Account, to less than £100. It may therefore be confidently hoped that at the close of the next Session, the new Council will have it in their power to report that the Building is entirely free from debt; that the whole of the Sum of £11,515 13s. 11d., required for the recent alterations and extensions of the Museum has, by the public spirit of their townsmen, and the steady friends of the Institution been raised, and that the Society is thus in

possession, free of all incumbrance, of a Building alike honourable to the town, and inferior to that of no provincial Institution of the kind. It will also appear on examining the Ordinary Account that, after providing two new table cases for the Museum, there will be a balance in favour of the Society of about £128.

The Receipts for the admission of the public to the Museum are not so large as in former years; but this is a source of revenue which may always be expected to fluctuate. It is satisfactory to find that a large number of persons find pleasure in viewing the collections of the Society; and it may be hoped that of the many who avail themselves of the opportunity of visiting the Museum, not a few go away with minds improved by what they see.

Some doubts having been expressed as to the security of some portion of the Building, the Council considered it their duty to take such steps as would effectually allay all anxiety on this head, and they accordingly requested Mr. J. W. Leather, C. E., to examine the Building and report fully upon its condition, particularly directing his attention to those points about which mistrust prevailed; and they are happy to find that in his opinion there is no ground for the apprehensions that were entertained.

The following list of the Papers which have been read before the Society during the past Session, will bear comparison in both Scientific and Literary interest with those of any previous year.

- 1.—“On Greek Fictile Vases.” By Rev. Churchill Babington, B.D., F.L.S., &c., Fellow of St. John’s College, and Disney Professor of Archæology, in the University of Cambridge. Read Oct. 24th, 1865.

- 2.—“Some Account of the New World Isthmus,” with Specimens and Illustrations. By Captain Pim, R.N., &c. Read Nov. 7th, 1865.
- 3.—“On the Stone Implements of Antiquity, with especial reference to those from the Drift.” By John Evans, F.R.S., F.G.S., F.S.A., &c. Read Nov. 21st, 1865.
- 4.—“The Runic Inscriptions of Great Britain; their Relations to History, Poetry, and Romance.” By Edward Charlton, M.D., of Newcastle. Read December 12th, 1865.
- 5.—The Conversazione. Held December 19th, 1865.
- 6.—“On the Distribution of Species.” By Professor Rolleston, F.R.S., &c., of Oxford. Read January 9th, 1866.
- 7.—“On the Application of Animal Materials to the wants of Man.” First Lecture by Professor T. C. Archer, F.R.S.E., Director of the Industrial Museum of Scotland. Read Jan. 23rd, 1866.
- 8.—Second Lecture by Professor Archer. Read January 25th, 1866.
- 9.—“Oxford in the Olden Time.” By Rev. J. T. B. Landon, M.A. Read February 6th, 1866.
- 10.—“Recent Discoveries on the Refraction of Light.” By J. H. Gladstone, Ph.D., F.R.S. Read February 20th, 1866.
- 11.—“The Physics of the Sun.” By Professor Robert Hunt, F.R.S. Read March 6th, 1866.
- 12.—“On some of the most dangerous moments of my disguise.” By Arminius Vámbéry, Professor of Oriental Languages in the University of Pesth. Read March 16th, 1866.
- 13.—“On the Cultivation of Oysters and Salmon by Natural and Artificial Means.” By Frank Buckland, F.L.S., &c. Read March 20th, 1866.
- 14.—“On the Physical Geography of Yorkshire.” By Professor Phillips, M.A., LL.D., F.R.S., of Oxford. Read April 3rd, 1866.
- 15.—“On the Atmosphere, its Chemistry.” By Thomas Fairley, F.C.S., Lecturer on Chemistry, Leeds School of Medicine. Read April 17th, 1866.

The *Conversazione* was held on the 19th December, when a larger number of Members attended than on any former occasion. The principal objects of interest that were exhibited were an extensive series of Water Colour Sketches of the Yorkshire Coast, from Patrington to Flamborough, by Mr. Sutcliffe; numerous Photographs of great beauty, by local and foreign artists; specimens of the new process called Graphotype, by Messrs. Roper, of London; Enamelled Mosaics, copied from St. Mark's, at Venice, by Dr. Salviati; Carrés Ice producing Machinery, by Dr. Crace Calvert. Mr. H. Clifton Sorby, F.R.S., exhibited and explained his direct vision Spectroscope and its application in the detection of stains of blood. There were also exhibited Illustrations of the Polarization of Light, by Mr. Milner, of Wakefield; a large Spectroscope, and Vibratory Rods, &c., by Mr. Waterhouse, F.R.S., President of the Philosophical Society of Halifax; and by Messrs. Chadburn, their Apparatus for Viewing Opaque Objects.

During the past year four of the Honorary Members of the Society have been removed by death,—Lord Monteagle, Professor Walker of Oxford, Dr. Whewell, Master of Trinity College, Cambridge; and Mr. Charles Waterton, of Walton Hall.

On a former occasion, when alluding to the death of Mr. William Gott, the Council expressed a hope that it might have some memorial of one who had been so constant and munificent a contributor to its collections. They have now the satisfaction of announcing the presentation by the Rev. John Gott, Vicar of Bramley, of a beautiful marble bust of his late father, executed expressly for the Society, by Adams, of Rome. Placed together with the busts of the Founders of the Society at

the entrance of the Museum, it forms an appropriate introduction to the collections to which they so largely contributed.

The Museum has also been enriched by the collection of the late Mrs. Hobson, of Carlton, near Pontefract, presented by her nephew, Edward Armitage, Esq., A.R.A., of London, at the suggestion of her brother, the Rev. J. Armitage Rhodes. It comprises a most extensive series of British and Foreign Shells, Corals, Sponges, Minerals and Volcanic products from Vesuvius; amongst which are some magnificent specimens of Quartz, Amethyst, Carbonates and Muriates of Lead, Carbonates and Phosphates of Copper, Carbonates of Lime, Specular Iron Ore, &c. &c.

The Museum has also been made the fitting depository of another important collection of Geological and Mineralogical Specimens, from various parts of the kingdom, as well as from the coal measures of Yorkshire, together with Philosophical Apparatus, the property of the late Christopher Dawson, Esq., of Royds Hall, which have been presented by his representatives, at the suggestion of Edward Hailstone, Esq., F.S.A., of Horton Hall. An additional interest attaches to the Scientific Apparatus, from the fact that some of it was constructed and used by the late Dr. Priestley and Mr. Dawson in their joint experiments.

The other additions of importance to the Geological and Zoological Departments are a fine head and horns of the gigantic Irish Deer, presented by Colonel Gascoigne, of Parlington Park; 32 bottles of Reptiles, in spirits, from Demerara, and a specimen of Merian's Opossum from Surinam, by Dr. Armitage; a fine Emerald Bird of Paradise, by Dr. O'Callaghan, of Leamington; and a

mature male Emu, by Mr. Joseph Holt. The Council have been fortunate enough to secure one of the sets of bones belonging to that remarkable extinct bird the Dodo, which had been sent to London from the Mauritius for sale. They likewise availed themselves of an opportunity of securing a very beautiful prepared skeleton of that rare bird the Cassowary, and thus enriching the Museum with a complete Osteological series of all the species of *Struthionidæ* except the *Apteryx* and the *Moa*, which deficiencies they hope will be supplied by those of their Members who may have connections residing in New Zealand.

For the purpose of furthering the study of certain Invertebrate tribes, which, from their minuteness, cannot be examined with the unaided eye, and the beauty of whose structure is imperfectly exhibited in spirits, the Council have obtained from Prague accurate magnified models in plaster of some of the *Foraminifera*, and a beautiful series of models in glass, shewing the natural size and colour of the European *Actinææ*. It is a sufficient evidence of the faithfulness and value of these models, that a similar series has been ordered for the British Museum.

It has long been a source of regret that the Society did not possess a Microscope among its Philosophical Apparatus; but this deficiency has been supplied by the liberality of S. J. Brown, Esq., who has presented one of the recent Binocular Microscopes of Dr. Harley.

The Archæological Department, which has long been the most deficient in the Museum, has received considerable accessions during the past year, including specimens of the worked Flints from Pressigny le Grand, presented by John Evans, Esq., and H. Christy, Esq.; and three very fine Flint Spear Heads from Ireland, presented by

Henry Oxley, Esq., Mayor of Leeds, and an extensive series of three hundred Flint Arrow and Spear Heads, Sling Stones, Celts, and various Implements from the neighbourhood of Bridlington, purchased for the Society by the contributions of several of its Members. The collection of Coins has been increased by a donation from the Chancellor of the Duchy of Lancaster of twenty Silver Coins of Henry 2nd and 3rd, John, and William "The Lion" of Scotland.

A part of the well-known Collection of Antiquities formed with so much care during a series of years by Mr. Wardell, has been purchased and presented to the Museum by several Members, whose names will be found in the list of Donations. It contains specimens of Roman and Etruscan Vases, Cups, Tazzas, Pateras and Lamps, Egyptian Sepulchral figures in Porcelain and Wood, Roman and Saxon Urns, Stone Hammers, Celts and Adzes, Flint Arrow Heads, and Roman Fibulæ and Coins. The interest of these last is much enhanced by their being found in Yorkshire, and by the places and circumstances of their exhumation being known.

The Council regret that they are able to report so few additions during the last Session to the Industrial Museum. The principal acquisitions have been a complete series illustrative of the Manufacture of Silk, by Messrs. Holdforth, and a Collection of 26 preparations exhibiting the destructive distillation of Wood, by Messrs. Warburton and Sons, and beautiful series of Models of Fungi.

The additions to the Library during the year have been highly satisfactory, embracing, besides the Reports and Publications of the principal Scientific Institutions in the kingdom and foreign countries, some works of importance, as for instance:—

- Essays on the Roman Invasion of Britain. By Professor Airey.
- Antiquitates Celtiques, and other Archæological Works. From Mons. Boucher de Perthes, of Abbeville.
- The Coins of the Ancient Britons. By John Evans, Esq., F.R.S.
- Astronomical Observations at Leyton, in Essex. By J. Barclay Gurney, Esq.
- History, Condition, and Prospects of the Indian Tribes of the United States. Vol. 5. The American Government.
- 44 Vols. and Memoirs on Geology and Mining Operations of Great Britain. Sir R. Impey Murchison, Director-General of the Geological Survey.
- The Publications of the Smithsonian Institution, and various Works connected with the American Government. The Smithsonian Institution, Washington.
- The Transactions of the Royal Society of Edinburgh; the Philosophical Society of Philadelphia; the Boston Natural History Society; the Academy of Sciences of Philadelphia; the Academies of Turin, Stockholm and Christiana. Presented by those Societies.

A Catalogue of the Books, which must have involved no small labour on the part of the Honorary Librarian, Dr. Heaton, has just been printed. The Council, believing that the Members will be glad to possess a record of the contents of the Library, have decided that it shall be sold to the Members at the cost price, (6d.)

It is a matter of some regret that, while the General Collection in the Museum will, in most departments, bear a comparison with, and in some is superior to all other Provincial Institutions, its specimens illustrative of the Natural History of the District are not more extensive and complete. Those of the Yorkshire Coal field for instance, although fine examples of the *well known species* occurring in the neighbourhood, might doubtless be enriched by new forms and genera, if a careful examination of the different beds in our Coal Formation were carried out by those Members of the Society whose opportunities facilitate such investigation. It is well known that the several beds of the Yorkshire Coal field

do not all contain the same fossil plants, and it would add materially to our knowledge if a correct register of the species characteristic of each deposit were carefully prepared; and although space could not probably be found to illustrate the different beds by individual specimens of their fossil contents arranged separately, such knowledge would be of great value. Members of the Society also, not specially interested in such matters, may largely aid by presenting to the Museum such specimens as fall in their way, or as they might easily procure with slight trouble, examples of the living or fossil Fauna and Flora of the County. As regards the Geological department, the Society naturally look for much aid to the Geological and Polytechnic Society of the West-Riding, whose Collection of Coal Plants adds so materially to our illustration of the Carboniferus series.

From the Meteorological Register, kept at the Hall, the following Abstract is derived to show the Monthly averages for the past year :—

1866.	Mean Temperature.	Mean Height of Barometer.	Total Amount of Rain in Inches.
January	36	29.224	0.135
February	35	29.551	0.185
March	37	29.600	0.095
April	50	29.780	0.510
May	54	29.550	1.305
June	60	29.880	0.610
July	63	29.598	1.780
August	59	29.521	3.140
September	60	29.880	0.150
October.....	49	29.321	3.900
November	43	29.590	2.535
December.....	42	29.813	0.865

The greatest degree of heat, as indicated by the Thermometer in the Sun was 100 on the 22nd of July; greatest in the shade 87, on the 24th July, and minimum 19° on the 15th February.

The greatest Barometric pressure was on the 11th of December, being 30.500, the temperature of the Mercury being 59°; the least pressure was on the 14th of January, being 28.150, temperature of Mercury, 52°

The greatest fall of Rain was on the 9th of October, being 1.600.

DONATIONS AND ADDITIONS

TO THE

SOCIETY'S MUSEUM.

Those marked thus () are Honorary Members ; thus (†) Members of the Society.*

GEOLOGY AND MINERALOGY.

- An extensive and valuable Collection of
Volcanic Rocks from Vesuvius ; magnificent
Specimens of Quartz, Amethyst, Carbonates
and Murates of Lead, Carbonates and Phosphates
of Copper, Carbonate of Lime, Specular Iron Ore,
Carbonate of Barytes, Flour Sparr, Opal, Jasper,
Chalcedony, Agates, Native Copper Blende, &c. }
Edward Armitage, Esq., A.B.A.,
London.
- Fine Specimen of Fossil Shell, from the
Ironstone of Middlesborough } †Mr. J. Holmes.
- A valuable Cabinet of Minerals ; a Series of
Plants from the Yorkshire Coalfield ; and
an extensive collection of Minerals and
Fossils from various parts of the United
Kingdom. } The Family of the late Chris-
topher Holdsworth Dawson
and Joseph Dawson, Esqrs.,
of Royds Hall.
- A very fine Skull and Horns of the Gigantic
Irish Deer (*Megaceros, Hibernicus*) } †Lieut.-Col. Gascoigne, Parling-
ton Park.
- Fine Specimen of *Stigmaria Ficoides*, from
Baldon Moor } Mr. H. Laycock.
- Fine Mass of an undescribed plant (apparently
Fucoid?) from the Flagstone at
Bramley Fall, near Leeds } †Mr. J. C. Dolan.
- Several Specimens of Trilobites, *Asaphus*,
from Coalbrook Dale } †Mr. Wm. Smeeton.
- Calamites Cannæformis* from Rumbolds
Moor } †Mr. B. Clayton.
- A series of 100 enlarged Models of the
principal Generic Forms of Foraminifera,
by Wenzel Fric, of Prague } Purchased by the Society.
- A small series of Bones of the Dodo, from
the Mauritius } Purchased by the Society.

ZOOLOGY.

- Fine Specimens of the Badger and Fox Mr. Leigh.
- A mature Male Specimen of the Emu †Mr. Joseph Holt.
- 32 Bottles of Reptiles from Demerara; and
a beautiful Specimen of Merian's Oppos-
sum, from Surinam } Dr. Armitage.
- Very fine Stuffed Specimen of the Emerald
Bird of Paradise } *Dr. O'Callaghan, D.C.L., F.S.A.
- Specimens of the Flying Lizard, from Mala-
bar; three Molar Teeth of the Elephant;
a large and valuable Collection of
Shells, Corals, and Sponges, formerly be-
longing to the late Mrs. Hobson, of Carlton,
near Pontefract } Edward Armitage, Esq., A.R.S.,
London.
- Specimen of the Egyptian Turtle Dove, and
the New British Snake (*Coronella lævis*),
and Natter Jack } †Col. Child.
- Specimen of the Frog-fish or Angler †Major Smith.
- Portion of the Solid Stem of an Elm Tree,
containing the Nest and Eggs of the long-
tailed Titmouse } †Mr. B. J. Hudson.
- Specimen of the Female Golden Eye } †Mr. J. W. Tottie, Coniston
Hall, Bell Busk.
- Fine stuffed variety of the Common Peacock Mrs. Gott, Armley House.
- Specimens of Stick Lac and Balæan Fringe,
from the Mouth of the Greenland Whale... } Professor Archer, Edinburgh.
- Specimen of the Sulphur Crested Cockatoo... Mr. T. Clapham.
- A Series of 64 accurate Coloured Models of
the European Species of Actinea, by Wenzel
Fric, of Prague..... } Purchased by the Society.

MISCELLANEOUS.

- A Marble Bust of the late William Gott, Esq.,
upon a Pedestal of Serpentine, by Adams,
of Rome } †Presented by Rev. John Gott.
- A valuable Collection of 100 Specimens, em-
bracing Roman, Greek, and Saxon Vases,
Tazzas, Ungentariæ Cups, Lamps, Pateras,
Stone Hammers, Flint Arrow Heads, Stone
and Bronze Celts, Palstaves, Chisels, Dag-
gers, Spear Heads, Egyptian Sepulchral
Figures, Peruvian Terra Cotta Vessel,
Encaustic Tiles, Bronze Keys, from Ald-
borough, Brass Matrix of an Ancient Seal,
Quern Stones, Bronze Mortar, Fibulæ,
Dagger Guard, &c.; formerly belonging
to Mr. Wardell, of Leeds. } Purchased and presented by
Dr. Heaton, Dr. Chadwick,
W. B. Denison, J. M. Smith,
Henry Oxley, John Jowitt,
†J. D. Birchall, C. Kemplay,
Edwd. Baines, Wm. Brown,
Edward Irwin, T. T. Dibb,
T. P. Teale, Edwd. Schunck,
Henry Nelson, John Crofts,
Wm. Hey, Saml. Hey, J. W.
Atkinson, John Botterill,
John Rhodes, John Holmes,
Thomas Fenteman.

- Specimens of Chipped Flints, from Pressigny }
le Grand } Sir John Lubbock, Bart., F.R.S.
- Three Anglo-Saxon Coins, of Edgar and St. }
Edmund, and a Downpatrick Farthing, }
from the Newry Fund, and supposed to }
have been struck by King John } John Lindsay, Esq., Black Rock,
Cork.
- Small Brass Coin of Carusius, found at Stack- }
moor, near Huddersfield..... } Mr. Robert Moss, Almondbury.
- A Russian Musket and Silver Belt and Tas- }
sels of a Russian Officer, found on the }
Field of the Alma ; and Relics from the }
Field of Waterloo } †Major Smith.
- A valuable Series of near 300 Flint and }
Stone Implements, found in the neigh- }
bourhood of Bridlington..... } Presented by the following
Members of the Society:
†J. G. Marshall, Ar. Marshall,
R. B. Turner, J. D. Lucecock,
Francis Lupton, F.W. Titley,
J. W. Armitage, Esqrs.
- Three very fine Flint Spear Heads, from }
Ireland } His Worship the Mayor of Leeds,
†Henry Oxley, Esq.
- A Series of Nutmegs with the Arillus or }
Mace still adherent..... } Mr. Bland.
- Eighteen Short Cross Pennies of Henry 2nd. }
Henry 3rd, one of King John, and one of }
William, the Lion of Scotland, found at }
Eccles. } The Chancellor of the Duchy of
Lancaster.
- Various Chemical and Philosophical Instru- }
ments, some made and used by Dr. Priest- }
ley ; two Globes, and Smith's Geological }
Map of the British Isles, mounted and in }
a case..... } The Family of the late Chris-
topher Holdsworth Dawson
and Joseph Dawson, Esqrs., of
Boyds Hall.
- Specimen of Colman's Coloured Starch, for }
Dying Linen Fabrics } Messrs. Colman, London.
- A pair of Wooden Shoes, from India } Mr. J. T. da Cunha
- A Bilha or Portuguese Water Jug, used by }
the peasants of that country } Mr. J. T. da Cunha.
- Several fine Specimens of Worked Flints, }
from Pressigny le Grand } John Evans, Esq., and the late
Henry Christy, Esq., of London.
- Fac Simile of the National Covenant of }
Scotland in its original form..... } †Mr. J. O. March.
- Sample of Indian Grass prepared for manu- }
facture } †Messrs. Marshall & Co., Leeds.
- A Map of the World, mounted, in a mahog- }
any case } †Dr. Heaton.
- Admiral Fitzroy's Barometer and Storm }
Indicator } †Messrs. Harvey and Reynolds.

Specimens Illustrating the Silk Manufacture †Mr. Walter Holdforth, Leeds.
A Series of 72 Models of Fungi Purchased by the Society.

LIBRARY.

- Memoires de la Societe Imperale d'Emulation d'Abbeville, for 1861-2-3-4-5; De la Machoire Humaine, de Moulin Quignon; Nouvelles Decouvertes en 1863 et 1864, par M. Boucher de Perthes; De l'Homme Antedeluvian et de ses Œuvres, par M. Boucher de Perthes; De la Femme dans l'etat social de son Travail et de sa Remuneration, par M. Boucher de Perthes; Discours prononce a la Société Impériale d'émulation d'Abbeville dans la Seance, du 3 Nov., 1839..... } *M. Boucher de Perthes, Abbeville.
- Proceedings of the Zoological Society of London for 1864 } The Zoological Society of London.
- Proceedings of the Geological Association for 1864-5 } The Geological Association, London.
- Essays on the Roman Invasion of Britain, 4to., privately printed..... } Professor Airey, F.R.S., the author.
- Report of the British Association for the Advancement of Science, for 1864 } The British Association.
- Catalogue of the American Philosophical Society, part 1 } The American Philosophical Society.
- A view of the History and Coinage of the Parthians, by John Lindsay, Esq., 4to.; Notice of remarkable Mediæval Coins, by John Lindsay, Esq., 4to; some Account of an Ancient Talisman from Syria, by John Lindsay, Esq., 4to..... } *Mr. H. Denny.
- An Inaugural Lecture on the Study of Archæology, by Churchill Babington, M.A., F.L.S., Disney Professor of Archæology in the University of Cambridge } The Author.
- The Boston Journal of Natural History, vol. vi., parts 1, 2, 3; Proceedings of the Boston Society of Natural History, vol. ix., part 2 } The Boston Society of Natural History, U.S.
- Statistics of the Foreign and Domestic Commerce of the United States, 1863..... } The Secretary of the Treasury of the United States.
- Monograph on the Bats of North America, by H. Allen, M.D.; Annual Report of the Board of Regents of the Smithsonian Institution, 1863; Smithsonian Contributions to Knowledge, vol. xiv., 4to..... } The Smithsonian Institution, Washington.
- Results of Meteorological Observations made under the direction of the Smithsonian Institution, from the year 1854 to 1859 inclusive, vol. 2, part 1, 4to } The Smithsonian Institution, Washington.

- Proceedings of the American Philosophical Society, vol. ix., parts 71 and 72, 8vo.; List of Members, &c., of ditto } The American Philosophical Society.
- Annual Report of the Trustees of the Museum of Comparative Zoology at Harvard College, Cambridge, U.S., 1864 } The Trustees of Harvard College, Cambridge.
- Transactions of the Wisconsin State Agricultural Society, vols. v. and vi. for 1858, 1859, and 1860, 2 vols. 8vo } The Wisconsin State Agricultural Society, Madison, U.S.
- The Coins of the Ancient Britons, arranged and described by John Evans, F.R.S., F.G.S., with 24 plates, 1864 } The Author.
- Antiquités, Celtiques et Antediluviennes par M. Bouchier de Perthes, tome 3, royal 8vo. } The Author.
- Caverns du Perigord objets Graves et Stulptes des Temps Pre-Historiques dans l'Europe occidentale, par M. M. Ed. Lartet et H. Christy } The Authors.
- Journal of the Royal Institution of Cornwall for 1865 } The Royal Institution of Cornwall.
- Record of Zoology, 8vo } Purchased by the Society.
- On the Flint Implements and Tumuli of the neighbourhood of Wath, near Ripon, by the Rev. W. C. Lukis, F.G.S. } The Author.
- Memoirs of the Royal Astronomical Society, vol. xxxiii., 1863-64 } The Royal Astronomical Society.
- The Harvean Oration for 1865, by H. W. Ackland, M.D., Oxon..... } The Author.
- Astronomical Observations taken during the years 1863-64, at the Private Observatory of Josiah Barclay Gurney, Esq., F.R.A.S., at Lepton, Essex..... } J. Barclay Gurney, Esq.
- Annual Report of the Halifax Literary and Philosophical Society for 1864 } The Halifax Literary and Philosophical Society.
- Proceedings of the Natural History Society of Northumberland, Durham, and Newcastle-upon-Tyne, vol. i, part 1 } The Natural History Society.
- Transactions of the Huddersfield Archaeological and Topographical Society, vol. 1, part 1..... } Mr. Fearless Barber, Brighouse.
- Proceedings of the Academy of Sciences of Philadelphia, for 1865 } The Academy of Sciences, Philadelphia.
- Proceedings of the Berwickshire Naturalists Club, vol. v., parts 2 and 3..... } The Berwickshire Naturalists Club.
- United States Coast Survey, for 1862, 4to ... } The American Government, through Professor Bache.

- Experiments to determine the Properties of some Mixtures of Cast Iron and Nickel, by William Fairbairn, F.R.S.; On Tubular Girder Bridges, by William Fairbairn, F.R.S.; The Machinery Department of the Great Exhibition, by William Fairbairn, F.R.S.; Useful Information for Engineers, by William Fairbairn, F.R.S.; Description of the Floating Steam Corn Mill and Bakery, by William Fairbairn, F.R.S.; Experiments to determine the effect of Impact Vibratory Action, &c., on Wrought Iron Girders, by William Fairbairn, F.R.S. } The Author.
- Reports of the Royal Society of Tasmania, for 1851-2, 1860-61-64; Monthly Notice of Papers and Proceedings of the Royal Society of Tasmania, for 1863 } The Royal Society of Tasmania, by Dr. Milligan.
- Diplomatic Correspondence—Papers relating to Foreign Affairs accompanying the Annual Message of the President to the Second Session of the 38th Congress, for 1863-64, 6 vols. 8vo } W. L. Raymond, Esq., Consul for the United States.
- Catalogue of Antiquities in the Museum of the Society of Antiquaries of Scotland ... } The Directors of the Museum.
- History, Condition, and Prospects of the Indian Tribes of the United States, by H. R. Schoolcraft, L.L.D., vol. 6, 4to. } Presented by the Commissioners for Indian Affairs, United States.
- The Short Cross Question, by John Evans, Esq., F.R.S. } The Author.
- The Art Directory for 1865; Calendar for 1866 } The Science and Art Department, South Kensington.
- The Gate of the Pacific, by Commander Bedford Pim, R.N., 8vo } The Author.
- Report of the Geological and Polytechnic Society for the West Riding of Yorkshire, for 1864-65 } The Geological and Polytechnic Society.
- Forty-four volumes and parts, of the Memoirs of Geological Survey of Great Britain; and Catalogues of Mining Records, &c. ... } Sir R. J. Murchison, F.R.S., Director General of the Ordnance Survey.
- Om De i Norge Forekommende Fossile Dyreløvninger fra quaternærperioden et ver drag til vor Faunas Historie af Dr. Michael Sars, 4to; Om Sneebroen Folgeon, af S. A. Sexe, 4to; Om de Geologiske Forhold paa, Kyststrækningen, af Nordre Bergenhus amt, af M. J. Th. Hiortdahl, 4to; Veiviser ved Geologiske Excursioner i Christiania omegn, af Lector Theodor Kjeruep, 4to } Fra Det. Kongelige Norsk Universitet i Christiania, Sweden.

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OF

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Honorary Curator in Antiquities and Works of Art, &c.	{ Thomas Nunneley.
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The above Officers, and the following Gentlemen, compose

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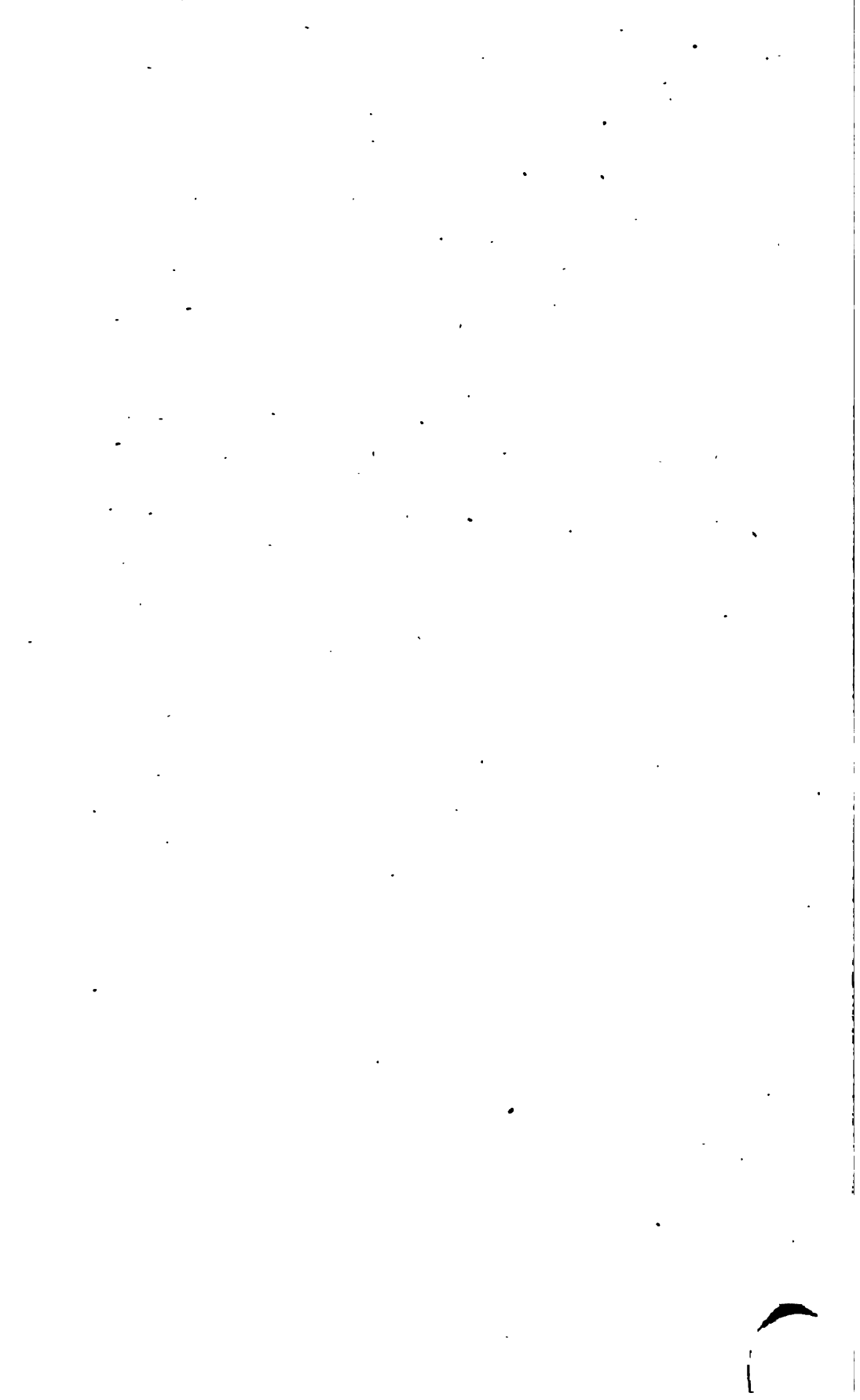
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FOR 1866-67.



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THE ANNUAL REPORT

FOR 1866-67.

Set 1

FORTY-SEVENTH REPORT
OF
THE COUNCIL
OF THE
LEEDS
PHILOSOPHICAL AND LITERARY
SOCIETY,

AT THE CLOSE OF THE SESSION

1866-67.

Read at the Annual Meeting, May 2nd, 1867.

LEEDS:
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—
MDCCLXVII.

IMPORTANT RULE

RESPECTING THE PROPERTY OF THE SOCIETY,

PASSED OCTOBER 8TH, 1860.

That in the event of a dissolution of this Society, its Property and Effects, whether real or personal, shall not be disposed of for the personal benefit of the Members, but shall be appropriated in such manner for the advancement of Science, Literature, or Art, in the town of Leeds, as shall be determined by a majority of the Members at an extraordinary Meeting to be convened for that purpose. But that no dissolution of the Society shall take place without the consent, in writing, of a majority holding not less than two-thirds of the Proprietary Shares.

FORM OF A BEQUEST TO THE SOCIETY.

Every person desirous of bequeathing to the Society any Sum of Money, Specimens, Books, Instruments, or other Property, is requested to make use of the following Form :—

I give and bequeath to the Trustees for the time being of the Society established at Leeds, called "THE LEEDS PHILOSOPHICAL AND LITERARY SOCIETY," for the use of the said Society, the sum of _____, to be paid out of such part of my personal Estate as I may legally charge therewith. [Or here enumerate the Effects or Property intended to be bequeathed.] And I direct that the Receipt of the Treasurer of the said Society, for the time being, shall be an effectual discharge to my Executors for the said Legacy.

REPORT OF THE COUNCIL

AT THE CLOSE OF THE

FORTY-SEVENTH SESSION.

THE Council are happy in being able to report a considerable addition to the numbers of the Society: 56 new Members and Subscribers having joined its ranks during the year, while only 33 have been lost by death or resignation. The Society at present consists of 272 Proprietary and Ordinary Members; and 374 Subscribers: total, 646. These numbers, however, though large when compared with former years, are still less than might be expected in a town of the size and wealth of Leeds, and it is believed they might be much increased if the present Members would undertake an active canvass amongst their friends and neighbours, and so place in the hands of the Society the means of greatly extending its usefulness.

The statement of the Accounts, which accompanies this Report, shows that the funds of the Society are in a satisfactory condition. The remaining portion of the debt on the Building Account, amounting to £102 14s. 3d., has now been paid, and in future the whole income may be appropriated to the current wants of the Institution. After devoting a larger sum than formerly to the purchase of books, and providing

additional cases for the Museum and Library, there still remains a balance in the hands of the Treasurer. The Council have pleasure in acknowledging the handsome donation of £10 from Thomas Emsley, Esq., of Burley, near Otley.

There is again a deficiency in the amount received for admissions to the Museum, the numbers during the past year having been only 31,859. As this is now an important part of the income of the Society, the Council recommend to their successors to consider whether some plan could not be adopted for increasing the attractiveness of the Museum and extending its usefulness.

The Papers which have been read during the Session have attracted considerable audiences, and have been in no way inferior in interest to those of preceding years, as will be evident from the following list :—

1. "A Correct Estimate of Facts the real Basis of Science." By Charles Chadwick, M.D., President of the Society, &c. Read October 16th, 1866.
2. "Life and Death." By George Murray Humphry, M.D., F.R.S., Professor of Anatomy in the University of Cambridge. Read November 6th, 1866.
3. "On the World as the Dwelling-place of Living Beings, and not a Lifeless Globe," with Illustrations. By John Birkbeck Nevins, M.D., of Liverpool. Read November 20th, 1866.
4. "On Sindbad the Sailor." By R. H. Major, F.S.A., M.R.S.Lit., Hon. Sec. R.G.S., &c., British Museum. Read December 4th, 1866.
5. The *Conversazione*. Held December 18th, 1866.
6. "On Greek Art, especially Architecture." By Dr. Kinkel, F.R.G.S., Professor at the Federal Polytechnicum of Zurich. Read January 8th, 1867.
7. "On Greek Art—Sculpture." Second Lecture. By Dr. Kinkel. Read January 11th, 1867.

8. "On the Habits and Transformation of Insects." By H. T. Stainton, F.L.S., F.G.S., &c., of London. Read Jan. 22nd, 1867.
9. "On Abyssinia." By Dr. Beke, F.R.G.S. Read Feb. 5th, 1867.
10. "Palestine East of Jordan, *i.e.* Gilead and Bashan, Historical and Descriptive." By the Rev. H. B. Tristram, M.A., &c. Read February 16th, 1867.
11. "On the Inhabitants of Yorkshire in pre-Roman Times." By the Rev. William Greenwell, M.A., Canon of Durham. Read March 5th, 1867.
12. "On the Atmosphere and its Effects." By John Wilson, F.R.S.E., Professor of Agriculture in the University of Edinburgh. Read March 19th, 1867.
13. "On the Signs of Hotels and Shops; their Origin, &c." By the Rev. J. T. B. Landon, M.A.
14. "On the Ratio of the Brain and Intellect in Man and Brutes." By Robert Gordon Latham, M.D., F.R.S., &c., of London.

CHRISTMAS LECTURES.

The Christmas Afternoon Course of Juvenile Lectures was delivered by Members of the Society, on subjects selected from the Museum, and embraced much interesting and instructive information. The Council, however, regret to state that the attendance was not so large as usual on such occasions. The subjects were as follows :—

1. "Creative Design, as Illustrated by the Structure of the various classes of Skeletons contained in the Museum." By Mr. C. G. Wheelhouse, F.R.C.S. Read January 15th, 1867.
2. "On Corals, Illustrated by an extensive series of Specimens from the Society's Museum." By the Rev. Thomas Hincks, B.A. Read January 17th, 1867.
3. "Points of Interest connected with some groups of Minerals in the Society's Museum." By Mr. Scattergood, M.R.C.S. Read January 24th, 1867.

The Annual Conversazione took place on the 18th December, and was attended by a large number of the Members and their friends. Besides a considerable collection of Paintings and Photographs, there were exhibited a variety of Indian Curiosities, lent by Captain Hill and Mr. Thomas Walker; articles of daily use among the Russian peasantry, by Mr. Wager; Antique Silver Plate, from the collections of Mr. Hailstone, of Horton Hall, Dr. Heaton, Mr. John William Atkinson, Mr. Nunneley, and Mr. Ferns; a most interesting collection of Vegetable Galls, from Mr. Wilson Armistead; and a selection of Early Christian Lamps from the Catacombs at Rome, contributed by Rev. John Gott. During the evening, Mr. Ansell, of the Royal Mint, exhibited and described his patent invention for detecting Fire Damp in Coal Mines,—a subject which possessed a special interest from the recent explosion at the Oaks Colliery; Dr. Heaton gave a short account of a series of Photographs of Kaffirs and the Scenery of Natal, contributed by Dr. Mann, of Natal; and Messrs. Harvey and Reynolds sent for exhibition a great variety of novel and interesting Chemical, Electro-magnetic, and Optical Apparatus. On no former occasion have the objects exhibited possessed greater interest or excited greater attention on the part of the large assembly that inspected them.

The Council have the melancholy duty of recording the loss which the Institution, in common with the whole town, has experienced in the death of Mr. Gott, one of its earliest and most valued Members. Like his late lamented brother, Mr. Gott joined the Society at its formation, and has ever been among its most munificent supporters, whenever its funds required aid, its buildings

enlargement, or its collections an addition. Though from his retiring habits he never took an active part in the management of the Society, he always manifested an earnest interest in its prosperity and progress, as he did in that of every other Institution of his native town which had for its object the moral and intellectual welfare of its inhabitants or the alleviation of human suffering.

Several highly important additions have been made to the different departments of the Museum during the past year. To the Geological department, the Executors of the late Edwin Austin, Esq., of Conster Manor, near Staplehurst, have forwarded to the Museum his Collection of the remains of the *Iguanodon* and *Hylæosaurus* from the Weald of Sussex, which had been bequeathed by that gentleman. This timely bequest enriches the Museum with several characteristic Bones of these rare and extraordinary Reptiles; and it is gratifying, not only from its intrinsic value, but as evidence of the interest which the Collections of the Society excited in a casual visitor from a distant part of the kingdom. From the Lingula Flags of Wales several rare and interesting Fossils have been presented by Mr. Plant, of the Salford Museum; and the Society has obtained by purchase some very fine specimens of the Tibia, Fibula, and Humerus of the *Megatherium* of Buenos-Ayres.

In Zoology, the principal accessions have been a mature female specimen of the Rhea, or South American Ostrich, presented by Mr. Jowitt; numerous Batrachian Reptiles from Brazil, from Dr. Hobson; several Bones of the Dodo, from Mr. Harry P. Higginson, of Thor-

manby; and specimens of Pteropods, from Mr. Tyerman, of Liverpool.

The small collection of Eggs, which has long been in the Society's possession, has been labelled by Mr. Frederic W. Joy, who has also contributed 93 additional species; and the whole are now being arranged in a case in the gallery, where they will form the nucleus for a series to illustrate British Oology, which it is hoped will be speedily much extended.

The Entomological collection has been enriched by some very important additions, including about 200 specimens of some of the most interesting genera, and beautiful species of the Papilionidæ, the gift of the President (Dr. Chadwick); and some singular generic forms of Coleoptera, from Mrs. Gott, of Armley House, and Mrs. Edward Oates, of Meanwood. The Foreign Insects have also been largely added to by Mr. Walker Joy, to whom the Society is indebted for his continued care of the British Lepidoptera. Mr. Joy has re-arranged the Papilionidæ, supplying several superior specimens in place of some that were already in the Cabinet; and adding printed labels, containing the local as well as the scientific name of each species; so that this portion of the series need not fear a comparison with any similar collection in the kingdom. Of the Sphingidæ, he, in conjunction with Mr. Frederick Buckton, have contributed a very nearly perfect series of fine examples; and these gentlemen promise to continue their labours in like manner through the nocturnal groups of Bombycidæ, Noctuidæ, Geometridæ, &c.

In the Protozoa, two of the most singular genera of Sponges have been added, viz., two specimens of that

extraordinary and elegant species, Venus's flower-basket (*Euplectella Aspergillum*), presented by Mr. John Barran and Mr. Francis Lupton; and its no less singular congener (*Hyalonema Mirabilis*), purchased by the Society. From the great interest which these species are attracting among Zoologists, as well as from their rarity, the acquisition of specimens has long been much desired.

Foremost among the objects that have been added to the department of comparative Anatomy, is the munificent contribution by the Mayor of Leeds of a Skeleton of the Giraffe. In order to further the study of the Anatomy of the different groups of Animals, the formation of a series of illustrations of the bony framework of the various genera has long engaged the attention of the Curators of Zoology, and the Museum possesses a valuable collection of many of the most remarkable forms. The genus Giraffa, however, has long been unrepresented, and the Society is therefore greatly indebted to Mr. Fairbairn for the readiness with which, as soon as he was informed that a perfect skeleton might be obtained from the College of Surgeons in London, he offered to present it to the Museum as his Mayor's gift. As a collection of human crania would be highly interesting, with a view to exhibiting a complete series of the principal Types of the Human Family, the assistance of the Members is earnestly requested in procuring Skulls of the natives of different countries, both ancient and recent.

The Archæological department has not been overlooked. An interesting and varied collection of objects from the Lake Dwellings of Robenhausen and Wangen, in Switzerland, has been presented by Mr. Kitson, of Elmete Hall. It comprises Bone Chisels, and Hackles

for Flax, Stone Implements, Arrow and Spear Heads, with the stones on which they have been rubbed into form; several fragments of Textile Fabrics and Twine, perforated Teeth, Barley, Wheat, Apples, Raspberry Seeds, Spindle Wheels, &c., &c. The entire series was selected by Dr. Keller, of Zurich, whose great experience is a guarantee that they are genuine relics from the above localities. The Society has also received some fine examples of Flint Implements from the Valley of the Somme at Abbeville, from Mr. Prestwich; and from Mr. Farrer, of Ingleborough House, several Stone Implements found in a subterranean building in the Brock of Barian, on the mainland of Orkney. Mr. J. Glennon, of Dublin, has presented a double Mortuary Urn of rude construction, from a Cromlech in Ireland; Dr. Verity, of Southwoods, and Mrs. Hamer, of Daleside, near Thirsk, several Relics from Tumuli in that neighbourhood. Mr. Wardell has added two Querns, and plaster casts of ancient moulds for casting Celts, found in Wales; Mr. Samuel Hey, a Sculptured Tablet from Nimroud; and Mr. Ferns, a Lamp from the same locality.

To the Ethnological Collections several interesting objects have been presented by Capt. the Hon. Horace Lascelles, Mr. Hailstone, and Mr. Bateson; and the whole of the specimens in this department have been labelled, so as to convey that information to visitors, the want of which has hitherto detracted so much from the interest of this department of the Museum.

The Minerals, which had been arranged according to the classification of Phillips, have been cleaned and re-arranged under their chemical bases, in accordance with the more modern system adopted in the British

Museum. Although this department contains a very fine collection of specimens, the new classification has shown that there are still many combinations unrepresented, which it would be desirable to supply in order to make the series an exponent of the Text-Book of the Student.

Still further to carry out the design of making the Museum correspond with the present state of scientific knowledge, the Council have commenced re-modelling the Geological Collections. The specimens are being cleaned and re-mounted; and Mr. J. W. Salter, of London, who has been employed in arranging the Woodwardian Museum at Cambridge, and other public Institutions, has been engaged to re-arrange and name them.

The Library continues to receive from various Foreign and British Scientific Societies their periodical publications as they are issued. A list of these will be found among the List of Donations; and important as they are as chronicles of the ever-extending progress and spread of science, the Council would be glad to find that they were more frequently consulted by the Members and Subscribers.* The Proceedings of the Royal Society of London have been presented to the Library by that distinguished body; and the Representatives of the late Mr. Henry Christy, of London, have forwarded, through Mr. Jowitt, all the published parts of the valuable work on the Cave Discoveries in the Valley of the Dordogne, in France, entitled *Reliquæ Aquitanicæ*, by Edward Lartet and Henry Christy. Among the recent additions will be found a file of the *Leeds Intelligencer*, extending from

* The Catalogue of the Library may still be had at the Museum, price 6d.

1754 to 1866, contained in about 90 volumes, which has been presented by Mr. Kemplay, and forms a useful reference on subjects of local interest.

During the Session, a Sub-Committee has been appointed to consider how far the Meteorological Observations which have been taken at the Hall for so many years could be made available for the information of the public; and, at their recommendation, a Monthly Chart or Diagram has been placed in one of the front windows of the Hall, exhibiting, by means of a series of lines, the daily fluctuations in the Barometer, Thermometer, Hygrometer, and Rain Guage.

The annexed is a summary of the results derived from the monthly averages for the past year.

1866.	Mean Temperature.	Mean Height of Barometer.	Total Amount of Rain in Inches.
January	41	29.480	1.790
February	39	29.340	2.130
March	39	29.390	0.970
April	45	29.620	1.145
May	51	29.680	0.660
June	59	29.610	2.240
July	59	29.630	3.790
August	58	29.446	3.160
September	53	29.350	4.356
October	50	29.780	2.318
November	44	29.560	3.472
December	43	29.530	2.164

The greatest degree of heat as indicated by the Thermometer in the Sun was 122 on the 27th of June; greatest in the shade 91 on the 12th of July, and minimum 19° on the 1st of March.

The greatest Barometric pressure was on the 25th of January, being 30.300, the temperature of the Mercury being 61°; the least pressure was on the 9th of January, being 28.600, temperature of Mercury 51°.

The greatest fall of Rain was on the 15th of November, being 1.100.

LEEDS PHILOSOPHICAL AND LITERARY SOCIETY,

FROM JULY 1st, 1866, TO JUNE 30th, 1867.

RECEIPTS.		£.	s.	d.	DISBURSEMENTS.		£.	s.	d.
To Balance in Bankers' hands	...	103	19	3	By Repairs of the Building and Property	...	77	7	4
" " Curator's hands	...	24	13	6½	" Taxes and Rates	...	2	17	4
				128	" Insurance	...	9	0	0
" Subscriptions of 81 New Proprietary Members at 21s. each	...	85	1	0	" Coals and Coke	...	14	11	10
" " 82 New Ordinary Members at 21s. each	...	86	2	0	" Gas	...	23	3	10
" " 25 Old Ordinary Members at 42s. each	...	52	10	0	" Cleaning the Hall	...	9	0	0
" " 161 Old Annual Subscribers at 21s. each	...	169	1	0	" Salary—Curator	...	200	0	0
" " 21 New Annual Subscribers at 21s. each	...	22	1	0	" " Assistant Curator	...	9	10	0
" " 160 Old Annual Subscribers at 5s. each	...	40	0	0	" " Porter	...	31	4	0
" " 30 New Annual Subscribers at 5s. each	...	7	10	0					
" Arrears	...	3	3	0	Collections—Geological Museum	...	14	12	1
" Rent of Cellars	...	50	0	0	" " Zoological ditto	...	63	10	8
" " Rent from the Geological Society	...	20	0	0	" " Archaeological ditto	...	19	10	9
" " Rent of Lecture Room	...	98	0	0	" " Industrial	...	0	14	0
" " Receipts for admission to the Museum	...	132	14	11	" " Library	...	44	1	6
" " Receipts at the Conversazione	...	25	5	0	Postages	...	8	12	8
				157	" Printing and Advertising	...	24	19	6
" Donation from Mr. Emsley	...	10	0	0	" Expenses of Lecturers	...	45	11	2
" " Discount from the Gas Company	...	0	3	8	" Expenses at the Conversazione	...	46	0	5
" " Sale of 13 Catalogues	...	0	6	6	" Commission on Collecting Subscriptions	...	8	2	0
" " Interest from Bankers	...	3	18	0	" Sundries	...	58	2	5½
				14	" Subscription to Society of Arts	...	2	2	0
				8	" Bankers' Commission	...	1	10	0
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				157	Balance due on the Building Account	...	195	0	2½
				19	" Balance in Bankers' hands	...	102	14	3
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DONATIONS AND ADDITIONS

TO THE

SOCIETY'S MUSEUM.

Those marked thus () are Honorary Members; thus (†) Members of the Society.*

GEOLOGY AND MINERALOGY.

A valuable Series of Bones of the Iguanodon and Hylæosaurus from the Weald of Sussex	}	Bequeathed by the late Edwin Austin, Esq., of Conster Manor.
Very fine Mass of Garnets, in Mica Schist, from Vancouver's Island	}	Capt. the Hon. Horace Lascelles, R.N.
Fine Specimens of Labradorite, Uranite, Chromate of Lead, Amber, Talc, Steatite, Fossil Ivory; Specimens of Crustacea from the London Clay; Ammonites from the Bath Oolite and Oxford Clay	}	Purchased by the Society.
Portions of Paradoxides Davidis, from the upper Cambrian or Lingula Flags, at Tyddyngwladis, North Wales; Lingula Davidisii, Olenus Cataractes, Orthis Lenticularis, and Cast of a part of a large Specimen of Paradoxides Davidis }	}	Mr. J. Plant, F.G.S., Salford.
Specimens of Chrysolite, Turquoise, Opal, Cat's Eye, and Amber	}	†Mr. J. P. Calvert.
Fine Specimen of Copper Ore, with Cobalt and Lead; and small Traces of Iron, from Alderley Edge, Cheshire ...	}	Mr. W. F. Gaunt.
Horn of the Red Deer, found in gravel 59 feet from the surface, while sinking for the piers of Trent Bridge, Lincolnshire	}	Mr. C. Patchett, Ardsley.
Specimen of Iron Pyrites, from California	}	Mr. C. Johnston.

ZOOLOGY.

- Several Species of Pteropods and shells } Mr. Tyerman, Botanical
Gardens, Liverpool.
- A very fine Specimen of the Wild Cat,
shot in Black Mount, Tyndrum, Ross-
shire } J. F. Wyllie, Esq., Bolfracks,
Taymouth.
- Mature Specimen of the Female South
American Ostrich (*Rhea Americana*)... } †John Jowitt, Esq.
- Specimen of the Lemon Sole (*Solea
Pegusa*)..... } Mr. Frank Buckland,
F.L.S., of London.
- Two very fine Specimens of the Bony
Palates of Species of Ray, from Madras,
Strombus Cornutus; and 2 Corals
from the Red Sea..... } †Edward Atkinson, Esq., F.L.S.
- Specimens of *Carocolla Lapidica* and
Clausilia Rugosa } Mr. John Dixon.
- Specimens of *Helix Concinna* Mr. Blackburn.
- A valuable Series of Exotic Butterflies and
Moths, all new to the Society's collection } †Dr. Chadwick (the Presi-
dent).
- Several very interesting Specimens of
Foreign Coleoptera; and a fine Speci-
men of the Indian Vulture } Mrs. Gott, Armley House.
- Very fine Specimen of the Bird-catching
Spider; and several Exotic Coleoptera } †Mrs. Edward Oates, Mean-
wood.
- Specimen of an exceedingly rare British
Insect, *Apate Capucinus*, taken at
Thorp Hall, near Leeds..... } †William Glover Joy, Esq.
- Specimens of the Undulated Parroquet, and
Red-rumped Parroquet } †Col. Child.
- Several Insects from Abyssinia †Edward Atkinson, Esq., F.L.S.
- Specimens of *Cyclas Ovale*..... Mr. J. Dixon.
- Specimen of the Laughing Jackass,
(*Dacelo gigas*), from Australia } †Mr. E. J. Smith.
- Very fine and perfect Specimen of The
Venus's Flower Basket (*Euplectella As-
pergillum*), from the Philippine Islands } †John Barran, Esq., Chapel
Allerton Hall.
- Specimens of the Glassy Rope Sponge
(*Hyalonema Mirabilis*), from Japan ... } Purchased by the Society.
- A Series of Bones of the Dodo, from the
Mare Aux Songes, Mauritius } Harry P. Higginson, Esq.

- 5 Snakes and a Lizard, from South Africa } Rev. Wm. Bramley, Beaufort West, South Africa.
- 20 Specimens of Batrachian Reptiles from Brazil..... } Dr. Hobson.
- A fine articulated Skeleton of the Giraffe (Giraffa Camelopardalis)..... } †Andrew Fairbairn, Esq. (Mayor of Leeds).
- Fine Specimen of Venus's Flower Basket (Euplectella Aspergillum) } Francis Lupton, Esq.
- 50 Eggs of British Birds Mr. Frederick W. Joy.
- A valuable Series of the British Sphingidæ, Bombycidæ, and Noctuidæ..... } †Walker Joy, Esq., and Frederick Buckton, Esq.
- A valuable Collection of Foreign Insects } †Walker Joy, Esq.
- Specimens of the Red Coral of Commerce } Purchased by the Society.

ARCHÆOLOGY, AND MISCELLANEOUS OBJECTS.

- A Lamp from the excavations at Nimroud (Nineveh)..... } †Mr. Francis Ferns.
- An Early Christian Lamp, with the sacred monogram, probably from the Catacombs at Rome } Purchased by the Society.
- Sculptured Tablet from Nimroud †Samuel Hey, Esq.
- 2 Querns, found near Leeds; a Stone Vessel supposed to have been a Pest Basin; Casts of Moulds for the casting of Bronze Weapons, found at Anglesea, Dorset, Wilts } Mr. James Wardell.
- A very remarkable Double Mortuary Urn, found at Ratouth, County of Meath, while cutting a drain } Mr. John Glennon, Dublin.
- Several coarse Stone Implements, probably used for bruising grain, found in an ancient subterranean chamber, at the Broch of Borian, mainland of Orkney } †James Farrer, Esq., Ingleborough House.
- Bone Ring found with a Skeleton in a tumulus at Silver Hill; and Flint Implements from a tumulus at Boltby ... } Mr. Manners Verity, Southwood.
- Bronze Box and Chain; Bronze fibula Portion of a Knife, and other relics, taken from a Tumulus at Sunnybank, near Helmsley } Mrs. Hamer, Daleside, near Helmsley.
- A most valuable and interesting Series of Specimens from the Lake Habitations of Wangen and Robenhausen, in Switzerland, consisting of Fragments of } †James Kitson, Esq., of Elmete Hall.

- Hearthstones, Corn Crushers, Stone Celts, Fragments of Deer's Horns, Deer's Ribs partially prepared for flax hackles, Awls and Chisels made of Deer's Bones, Spindle Wools, Pottery, Apples, Wheat, Barley, Flint Tools and Arrow Heads, Textile Fabrics, Thread and Twine, Perforated Teeth, Skull of the Dog, and Portions of the Piles, selected by Dr. Ferdinand Keller, of Zurich..... } †James Kitson, Esq., of Elmete Hall.
- Native Cloth from Navigator's Islands; Rattle or Charm used by the Medicine Men of Western North America..... } Capt. the Hon. Horace Lascelles, R.N.
- Very curious Cap and Mask, from New Britain, one of the South Sea Islands; and Specimens of Betel Nut } †Joseph Bateson, Esq., J.P.
- Very large and singular Adze, probably from New Zealand } Edward Hailstone, Esq., Horton Hall.
- 3 very fine Specimens of Native Drums, from New Zealand, and supposed to be nearly 100 years old; two Indian Shields made of Rhinoceros' skin } Purchased by the Society.
- A Bronze Commemorative Medal and Silver Coin } Mr. Cohen.
- 1 Franc Piece of Leopold I; 2 ditto of Saxony; ½ Franc Pieces of Napoleon I., Charles X., and Louis XVIII; 25 Cents of Frederick William of Prussia; ½ Franc of Bonaparte First Consul, and ditto of Charles X. } Mr. Murrell Wright.
- Cast of the Seal of Tilley Abbey, near Saffron Walden, Essex..... } *Mr. H. Denny.
- Several Flint Implements, found at St. Acheul, Amiens } Joseph Prestwich, Esq., F.R.S., London.
- An Almanack taken from the Palace of the Ranee of Sansee during the Indian Mutiny } Mr. Bapty.
- Memorial Ring of the Earl of Glencarn, the friend and patron of Burns } †Mr. G. A. Linsley.
- Pattern Specimens of the new Coinage for Malta, value ½ of a farthing } Mr. G. F. Ansell, Royal Mint.
- A Series of Specimens to Illustrate the Process of Bookbinding, from the Sheets to the Finished Binding and Gilding, with Cloth and Paper..... } Mr. Tanfield.

- Specimens of Gum Copal and Gum Animi, used in the Manufacture of Varnish } Mr. J. Galleway.
 A Japanese Tradesman's Pattern Book of Papers for Walls. Folio..... } Deposited by Mr. W. S. Ward.

LIBRARY.

- Proceedings of the Boston Society of Natural History, vol x., Parts 1 to 18 ; Condition and Doings of the Boston Society of Natural History, May, 1861 } The Boston Society of Natural History.
 Annual Report of the Trustees of the Museum of Comparative Zoology at Harvard College, Cambridge, U.S., 1865 ; Annual Reports of the President and Treasurer of Harvard College, 1863, 1864, 1865 ; and two Discourses occasioned by the deaths of Jared Sparks, LL.D., and Charles Beck, LL.D., delivered by Wm. Newell, 1866 ; and various Pamphlets connected with the University } The Trustees of Harvard College.
 The Worthies of Leeds, 12mo. †Dr. Heaton.
 Oversigt ; over del Kongelige danske Vedenskabernes Selskabs Förhandling- og, dets Medlemmers Arberder, i Aaret, 1864 ; Nos. 1 to 4, for 1865 ; Nos. 1 to 6, for 1866 ; Nos. 1, 2, 3, for 1867 } The Royal Academy of Denmark.
 Ofversigt of Kongl ; Vetenskaps-Akademien's Förhandling, for 1864 } The Royal Academy of Stockholm.
 The Anthropological Review, Nos. 9, 10, 11, 12, 13 } The Anthropological Society.
 The Radcliffe Astronomical Observations for 1863 } The Trustees of the Radcliffe Observatory, Oxford.
 Memoirs of the Manchester Philosophical Society ; 3rd Series, vol. ii. ; Proceedings of ditto, parts 3 and 4 } The Manchester Philosophical Society.
 The Annual Report of the Hull Literary and Philosophical Society, for 1866 ... } The Hull Literary and Philosophical Society.
 Transactions of the Academy of Science of St. Louis, U.S., vol. ii., No. 2 } The Academy of St. Louis.
 Documents Relating to the United States Sanitary Commission, 3 vols., 8vo } The New York Sanitary Commission.

- Annual Report of the Smithsonian Institution for 1864, 8vo. } The Smithsonian Institution, Washington.
- War Department, Washington, Surgeon-General's Office. Reports on the Extent and Nature of the Materials available for the Preparation of Medicine, and Surgical History of the Rebellion, 4to } The American Government.
- Journal of the Royal Geological Society of Dublin for 1865 } The Royal Geological Society of Dublin.
- Dankerwerk's Holstein Chronicles, folio } †Wm. Chadwick, Esq., Arksey.
- The Greenwich Observations for 1864 ; Value of the Moon's Semi-Diameter, from occultations and Planetary reductions } The Lords Commissioners of the Admiralty.
- A File of the *Leeds Intelligencer*, from the commencement in 1714 to the year 1866 } †Mr. Kemplay.
- Transactions of the Natural History Society of Northumberland and Durham, vol. i., part II } The Natural History Society of Northumberland and Durham.
- Lithographs of the Footsteps of Cheirotherium and Birds, from Stourton Hill Quarry, Cheshire } †Dr. Greenhow.
- The Canadian Journal for 1866 } The Canadian Institute, Toronto.
- Notes on the Ancient Domestic Residences of Tre-Owen, Killwch, and the Waen, by O. Morgan, M.P., F.R.S., and Thomas Walker, Esq., 1861 ; Notes on the Ancient Domestic Residences of Pentre-bach, Crick, Ty-maun, the Garn Crindau, and St. Julian's, by the same authors ; Notices of Pencoyd Castle, by the same, 1864 ; printed for the Monmouthshire and Caerleon Antiquarian Association, royal 8vo, 1851 ; Selections from an Antiquarian Sketch Book, by John Edward Lee, royal 8vo. } John Edward Lee, Esq., Caerleon.
- Abstract of the Proceedings of the Liverpool Geological Society, 1865 and 1866 } The Liverpool Geological Society.
- Anniversary Address of the President, read before the Anthropological Society, for 1866 ; The Popular Magazine of Anthropology, Nos. 1 and 2 } The Anthropological Society of London.

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| Baillieres' New South Wales Gazetteer and Road Guide, 8vo. | } Presented by the Government of New South Wales. |
| Notices of the Ellis's of England, Scotland, and Ireland, from the Conquest to the present time, by W. Smith Ellis, of the Middle Temple, 8vo.; A Plea for the Antiquity of Heraldry, by the same Author; Hurst-Pierpoint, its Lords and Families, Ancient and Modern, by the same Author..... | } The Author. |
| Transactions of the Royal Society of Edinburgh, vol. xxiv., part 2; Proceedings of the Royal Society of Edinburgh, for 1865 and 1866, vols. 1 and 2 ... | } The Royal Society of Edinburgh. |
| The Journal of the Chemical Society for 1866 | } The Chemical Society of London. |
| The Zoological Record for 1865, 8vo. ... | } Purchased by the Society. |
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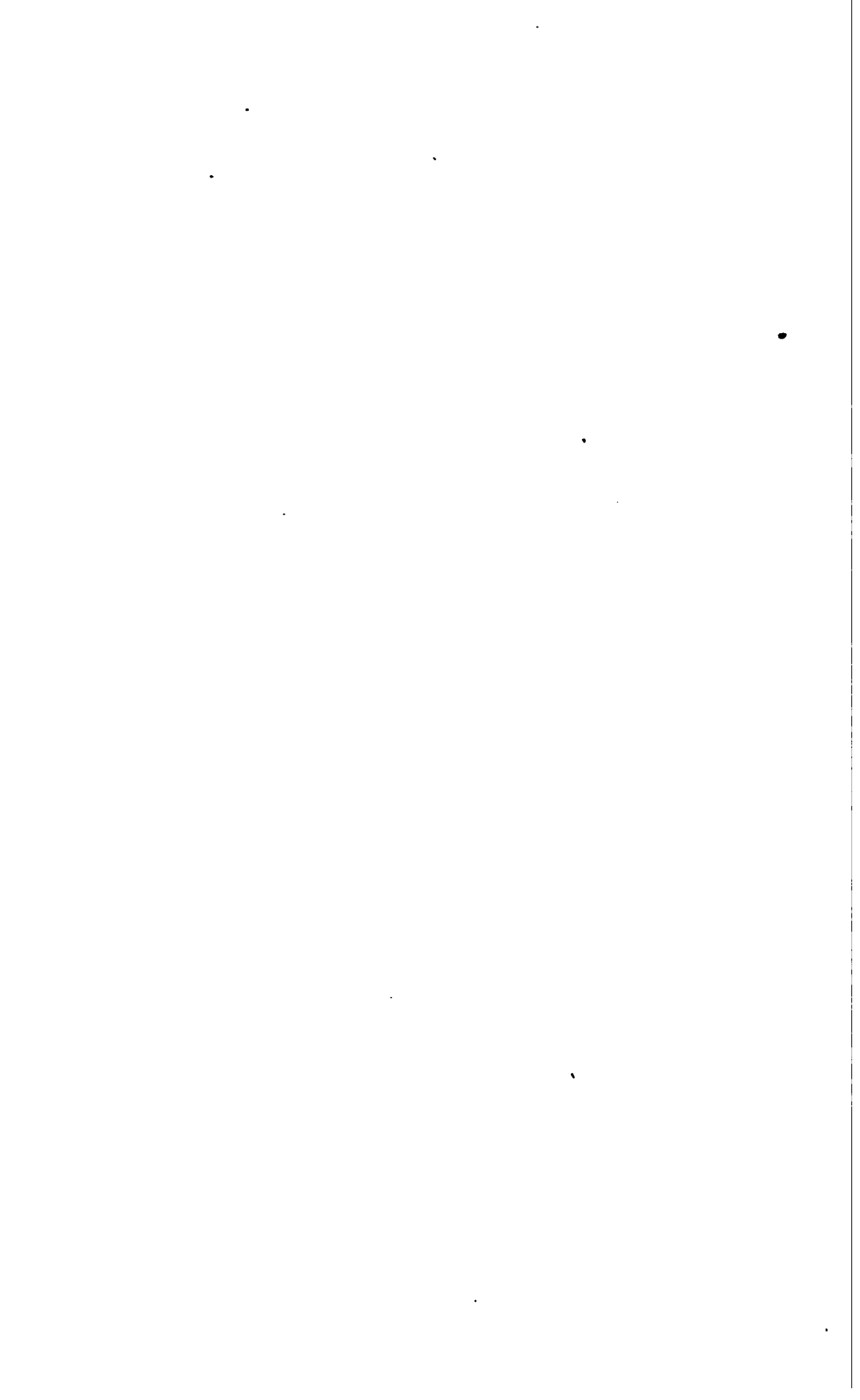
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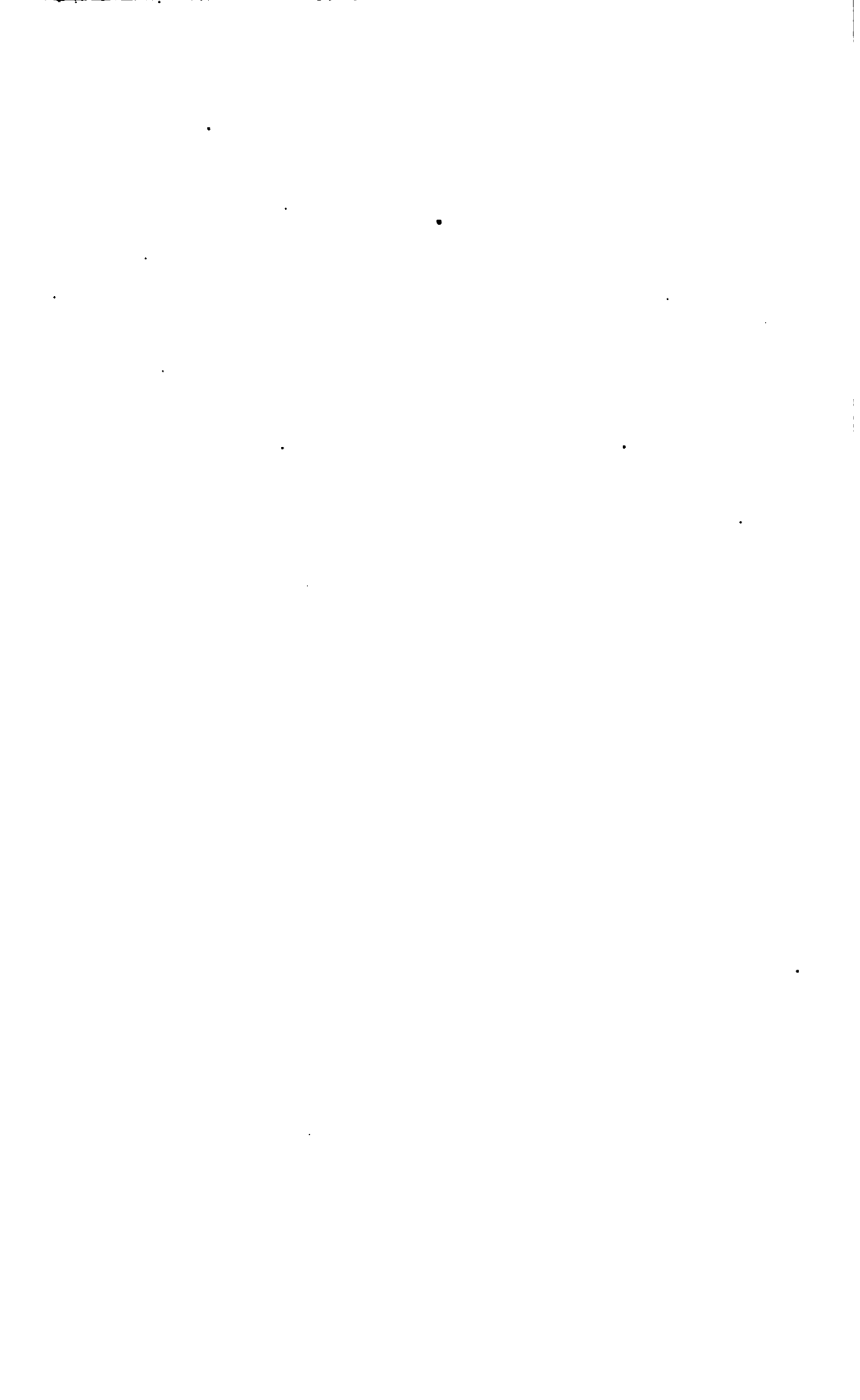
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